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FLORIDA AS A HEALTH RESORT.

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For years the question, *Where shall I spend the winter?* of a phthisical or phthisically-inclined patient, has been an embarrassing one to the physician. Winter resorts, some of them entirely dissimilar in the characteristics of their climate, have risen or fallen in the estimation of the public, and, to some extent, among medical men, according to the prevalence or decline of a theory, or apparently even a fashion; and we are still, to a great extent, at sea as to what is the most favorable location for an invalid in winter or spring, or even whether any change is desirable. The cold and dry regions, *e. g.*, Minnesota; the elevated regions, with their rarefied air, *e. g.*, the Engadine in Europe, the mountains of Peru in South America, Laramie and Colorado in this country, have had their pilgrims, and neither theory nor fashion seems to sustain their reputation. The time-honored resorts of Italy, which, for so many years, absorbed almost the entire invalid travel, have lately fallen greatly in the estimation of intelligent people, who could not fail, after the charm of novelty and the haze of romance had been dispelled, to see on how unstable a foundation, in a climatic and hygienic point of view, her reputation had been based.

But little has been known among our people concerning the climate of Florida. Comparatively few had visited the State prior to the war. Many causes conspired to this; the long Seminole War; the unsettled state of affairs for many years after; the impossibility of securing any decent accommodation for invalids; then the civil war checked travel and immigration, and rendered the State still a *terra incognita*. Now, everything has changed. To one who has not paid a visit there, especially to the St. John's River region, for three or four years, it is as if the magician's wand had been waved over it. Not only those seeking health, but settlers, in the shape of farmers, of men of means, even of wealth, of education and refinement, have been pouring in

along the river counties; as many as twelve thousand have been estimated as the influx into Orange County alone in twelve months. Forests have been leveled. Orange-groves have taken their places. Schools and churches have sprung up, and refined and agreeable society can be found over a large extent of country, where but a few short years ago a howling wilderness existed.

The discussion of the broad question of climate, in its various aspects and bearings, has always been a perplexing one. It is especially so when we, as physicians, come to consider it in its relations to any particular individual, or even any particular disease. To analyze the mass of information with which we are confronted, to scrutinize the various conflicting statements of equally reliable observers, and to deduce anything like a definite and satisfactory conclusion, with regard to any particular locality or country, is a matter of no small difficulty. To this sort of investigation the writer has addressed himself for the past two years, in the case of Florida; and indeed, for the most part, only to a small portion of the peninsula, that which is most accessible to invalids. For, until proper facilities for easy travel and proper accommodation are provided for those larger portions lying along the Indian River, and along the Gulf coast, south of Tampa, which are supposed by many to present attractions superior to the more northern portions, their relative merits may profitably be left out of the question. The great bulk of tourists and invalids have heretofore distributed themselves along the St. John's River and at St. Augustine. A few go into the pine-regions of the interior to get away from the river. But, go where one will in Florida, it is difficult, owing to the peculiar conformation of the country, to escape the influence of considerable bodies of water. With reference to Florida, "almost without a metaphor," says "Chambers' Encyclopædia," "it may be described as amphibious." This, however, so far from being a disadvantage, constitutes, to a certain extent, its charm, and will, in the future, constitute a great source of its wealth—these bodies of water being, for the most part, clear streams and crystal lakes. A study of most of the works on Florida, from that of Le Moyne, who visited the territory as artist to the French expedition under Laudonnière in 1564, and the Bartrams, who visited it as naturalists in 1772, to the latest publications, including periodicals, pamphlets, and newspapers; access to all the records bearing upon the subject in the possession of the War Department, the library of the Surgeon-General, and other depositories in Washington; a careful collation of the various meteorological and other tables included in these records; personal interviews with distinguished medical officers of the army, who have served in all parts of Florida, and with many of the scientific and medical residents of the State, with some of her representatives in Congress; and, lastly, the opportunity for consulting a considerable number of the thousands of intelligent visitors and invalids, who passed through, or located for the season at the writer's winter residence, have afforded him unusual facilities for unraveling the intricacies of the subject so graphically described by Scoresby Jackson. The last source of information, as regards the relative merits of various climates, he considers of more value than all the others, more so than even an extended personal observa-

tion. For invalids are by far the best judges of climate; they are living barometers and hygrometers. Here you have the opportunity to question and cross-question the reporters, and not only thus to arrive at the truth, but, what the books seldom give, the whole truth. All of these individuals were intelligent and educated people, most of them invalids who had traveled the world over in search of health, and tested its renowned sanitary resorts, some of them winter after winter. Few of them had any particular prejudice for or against any special locality, save from its actual effect, but were, from self-interest, in search of the best.

The evidence of those who have tested the climate of Florida by sufficient personal observation, or by a careful examination of the data furnished by others, has been of the most favorable character. A reasonable amount of valuable data with regard to the meteorology of Florida is supplied by the volumes of the "Medical Statistics of the United States Army;" but if one undertakes to judge of a climate, in a sanitary point of view, or of the fitness of any particular country or district for invalids, by mere latitude or temperature, or its variability or invariability, its dryness or humidity, he will fail to comprehend the philosophy of the subject. Its geography, especially its physical geography, must be studied, its position with regard to surrounding or neighboring seas or bodies of water, to great currents both of air and water, its relation to storm-centres and tracks of storms, to mountain-ranges, not only within its own borders, but sometimes at a distance from them. Thus Florida has often been poetically described as "the Italy of America," yet the parallel which runs through the southern extremity of the peninsula is 25°, while the southern extremity of Italy is 38°. The Riviera is 44°, and the Isle of Wight and Torquay nearly 51°; yet the winter climate of the latter is very pleasant, and highly recommended in England for consumptives. While one can usually live in perfect comfort in Florida, even away from the coast, if at rest in the shade, under a temperature of 95°, the same person, under a like temperature in New York or Canada, would probably be in a state of mental and physical discomfort. It is the insular position of Florida, with the proximity of the Gulf Stream flowing north, and the cold Arctic current flowing south, the comparatively narrow strip of country separating the Atlantic and the Gulf, and the numerous smaller bodies of water abundantly distributed over its surface, the prevailing winds always sweeping over water of a uniform temperature, which modifies the heat of summer and the cold of winter.

With whatever faults it may have, the climate of Florida, in comparison with most others, stands preëminent. I have watched, with some anxiety, the cases of those in the more advanced stages of consumption, when the diurnal temperature ranged, as it did last winter, from December 5th to December 16th, as follows: 78°, 82°, 82°, 83°, 84°, 81°, 82°, 81°, 81°, 80°, as I heard them complaining from day to day, and was gratified, when the mercury showed 69°, at the same hours on the 16th, to hear their expressions of relief, and to see their entire change of manner and appearance. This was an unusual series of days for Florida in winter; but a high temperature of shorter duration is quite common, and the cool, sometimes cold, change

which succeeds, so far from causing colds and pneumonic complications, common under like circumstances at the North, generally acts like a cold shower-bath, and braces up the system. The occasional wood-fires, around which the invalids so cozily congregate on the cool days, are never unacceptable as a pleasant change, and contrast favorably with the more uniform and debilitating heat and monotony of more tropical climates. Nothing, in fact, is so distasteful and injurious to most invalids as monotony. The writer has always believed in the traditional idea that when phthisis had arrived at the stage of softening, a removal to a warm climate is not a beneficial change, that a sudden and rapid increase of the trouble is pretty sure to follow. A study of such cases last winter has not tended to establish the correctness of this idea. On the contrary, the progress of the disease was slower, if not entirely arrested, provided the patients were not moribund (as they sometimes are) on their arrival, even with the disadvantage of being deprived of the comforts of home, which they so much need. Every village and hamlet in Florida can probably furnish its examples of people who have come there years ago, only, in the opinion of their friends, to die, and who are now doing well, some of them apparently in full health. It is impossible, of course, to say, without a physical examination, how many of these were cases of *chronic bronchitis*, or other affections simulating phthisis, but their history showed that they would almost certainly have died except for their change of climate. This little village, in which I have taken up my winter abode, can furnish several examples. It is very likely that the more uniform heat of tropical climates may furnish stronger evidence of the correctness of this commonly-received opinion among medical men.

The *temperature* is similar to that of a *typical* May or September in New York, and is usually delightful. For a period of twenty years, it was at Jacksonville, on the St. John's, for January, February, and March, 62°; at St. Augustine, 59°; at Pilatka, latitude 29° 34′, it was, last winter, for January, February, March, and April, at 12 M., 63° 50′. The average temperature, taken during these months every hour, from 12 at night until 6 A. M., was 57° 40′. A slight film of ice is occasionally seen during the winter, and slight frosts are not rare north of the 25th parallel, but not often injurious to vegetation. Williams, in his History of Florida, speaks of a snow-storm which appeared in 1774, and extended over most of the State. "The ancient inhabitants," he writes, "still speak of it as an extraordinary 'white rain.'"

As regards *hygrometric* conditions, it is necessary to say a few words. The "dampness" of the climate has been much talked about by those who have regarded only the physical aspect of the State, the large proportion of water existing everywhere, without any knowledge of the actual condition of the *air*. The air is, during *summer*, very damp. Guns, surgical instruments, etc., rust in spite of all precautions. More rain falls during this season than all the others combined. During the winter the case is entirely different. I found no special precautions necessary to preserve my instruments from rust, and boots and shoes, long neglected, showed no mould. At some of the prominent resorts in Florida the invalid is conscious of an un-

pleasant dampness after sunset, when out-of-doors and not in active motion. As a rule, these places are usually surrounded by large trees, with their usual funereal adornments of Spanish moss, which may, in some measure, account for this. At Pilatka, and at other points farther up the river, it is not so. This village, with an elevation of twenty-five feet, has a natural drainage on three sides, a peculiar soil, and no large trees, only the wild-orange, and other tropical trees of slight elevation, simply for ornament. Here, when the air is not too cool, one may be out until ten or eleven o'clock at night with comfort, though it is not *advisable* for invalids to be exposed at this hour. The dews, usually heavy, do not commence to gather until twelve o'clock, the mercury then commencing to fall, and falling steadily until five or six. Until 11 P. M., or later, last winter, a handkerchief could be swept over the grass—which is here, unlike other localities in the State, as green as in a Northern village in summer—without being moistened. When the mercury rises to 75° or 80° during the day, there are fogs ; but the invalid rarely sees them, as they commence at midnight, or later, and are dissipated by the sun before their breakfast-hour. A great deal has been said, by those interested in other winter resorts, about the fogs and dampness along the river ; but there is really no more dampness than is useful, indeed necessary, to prevent too rapid radiation of heat from the surface of the earth, and a consequent too rapid fall of temperature. Were it not for this provision of the climate, instead of a fall of ten or twelve degrees we should, perhaps, have one of thirty to forty. In the desert of Sahara, for example, where the dryness is absolute, and radiation at night unrestricted, the temperature falls to the freezing-point ; and on our Western Plains the difference between the diurnal and nocturnal temperature is sometimes 60°. Here, while the evaporation of moisture during the day tempers the heat, the condensation at night limits the cold. At Fort King, in the same section of the State as Pilatka, Forry gives the annual number of fair days as 309 for a series of years, and on the Northern Lakes 117. On the *coast* of Florida the number is 250. A moist climate is not necessarily bad for consumptives, though it is generally so. On the Nile, though most cases do well at Thebes and Cairo, others do better at Alexandria. The climate of Lima is very dry, yet consumption is very common, while on the mountains back of Lima the air is always damp and rain common, yet consumption is rare. *Cold* and moisture are always bad, but *warmth* and moisture may or may not be so.

Tourists are industriously warned, by persons interested in other localities in Florida, against the *malaria* of the St. John's River. It is undeniable that persons do occasionally suffer from it during the winter season. But it rarely gives trouble except to those who are unusually careless in exposing themselves, or in drinking well instead of cistern water.

The State abounds in springs of excellent water, but they are not always accessible. Rain-water, however, may always be had, even in the driest seasons, by providing large cisterns for storage. Lately water has been procured by boring through the calcareous crust to the depth of sixty feet or more, and the water, when filtered, is pleasant to the taste. A qualitative analysis of one of these wells in

the yard of the Putnam House, made by my friend Prof. Witthaus, gives the following result: Lime (carbonate and sulphate); magnesia (carbonate); ammonia, soda, chlorine, carbonic acid, sulphuric acid, (*traces*); silicic acid; organic matter; the latter in small quantity. This water ought not to take the place of rain-water for drinking purposes. The cases of intermittent fever which do occur in the winter, generally among those who are visiting different points of interest up and down the river, and more or less exposed at night, are very manageable. It is not fair, however, to attribute every case of fever, which occurs among Northern visitors, to the Florida climate, since the disease has been so very prevalent almost all over the whole of the Northern States during the last five years, both in winter and summer, that it would be more rational to attribute the outbreak to latent disease contracted at home, and developed, as is characteristic of the disease, by change. In my own case I had suffered from it for more than eighteen months, had failed to get relief from a summer's residence in Saratoga Springs, and have never had an attack since my arrival in Florida last December, though I remained there until the 10th of May, and although the winter was an exceptionally favorable one for the development of malaria, owing to the drought.

Dysentery and **Diarrhœa** of a mild type, and easily managed, occasionally attack the winter visitor. Statistics, which I have not space to quote, show that *phthisis* gives fewer deaths than in any other portion of the United States. *Yellow fever*, even when it appears in other Southern States, rarely appears in Florida, except at Key West and Pensacola. It is almost unknown in East Florida.

Who shall go to Florida? When one thinks of our cold weather at the North, extending from October almost into June, with the last three months of alternate freezing and thawing, cold and damp, with their attendant crops of colds, influenzas, diphtheria, pneumonia, etc., one is disposed to answer, "All who can afford it." The *mass* of visitors, who now pour into the State to enjoy the winter, are not invalids in the strict sense of the term; many of those who are invalids are not perceptibly so to the general observer, and the average tourist is not therefore annoyed, as he feared he might be, by constant contact with sick and suffering people. Of course, of the *invalid* class, those afflicted or threatened with *phthisis* and its allied affections constitute the majority of the pilgrims to all southern climates. Although I do not countenance the practice of banishing those in the last stage of the disease from friends and the comforts of home, yet, as has been before stated, not all of those die, and an apparently rash and hopeless determination of a patient, perhaps in opposition to physician and friends, occasionally results in cure. Besides, a considerable margin ought to be left for a possible mistake in diagnosis. Our first-class diagnosticians would hardly require this margin, and many who do not come within this category will doubtless resent this insinuation. But a winter's experience in Florida among the invalid visitors would convince the most skeptical that modern diagnosis of pulmonary complaints, even among those who stand high in professional estimation, has not arrived at the degree

of perfection usually accorded to it. Then there is a class of cases which would be greatly benefited by a winter's residence here, which is not considered of sufficient gravity by many physicians to be banished from home: those who present some of the rational symptoms of phthisis without any physical signs—a condition not unfrequently, at the present day, confounded with the effects of *malaria*—such cases as Dr. I. E. Pollock had in mind when he said, in his recent lectures on phthisis, "Here"—that is where we have "*a union of subfebrile symptoms with progressive waste of the body*—is danger without any physical signs." *Incipient phthisis, pneumonic consolidation, laryngeal and pharyngeal diseases,* have sought and obtained great and prompt relief from this climate, especially if not hereditary. Many cases of throat disease are, however, sent here for the *local* affection, who have the seal of consumption already stamped on the countenance, yet who are in ignorance of any constitutional disease, and who become sorely disappointed at the slow progress, and sometimes the hopeless nature, of the case. Of all thoracic diseases, *chronic bronchitis,* not rarely confounded with phthisis, is most certainly benefited by a Southern winter. *Asthma* is benefited, but to what extent, and in what particular localities, I am not able to say. It has been claimed by invalids that a locality back of Mellonville or Sanford, on the river, is particularly efficient. Forry states that the patient who is suffering from pure spasmodic asthma, or that which is complicated with chronic bronchitis, or that which is symptomatic of primary irritation in other viscera, is much benefited; also asthma connected with affections of the heart. But he does not advise any particular locality. The earlier stages of *Bright's disease* may be more successfully treated here than in the inclement weather of Northern latitudes; also persons, especially those of a delicate constitution, convalescing from *measles* or *scarlatina,* particularly when the affection of the kidneys or other sequelæ are slow in passing away. *Old age* finds in Florida a congenial winter home. Aside from the dangers of thoracic disease, to which this period of life is so peculiarly liable in our Northern spring climate, the *vitality* is impaired by the long winter and lagging spring. Many of this class of the male sex are also suffering from *vesical* and *prostatic* disease; and the impairment of cutaneous action, induced by cold, causes much suffering, and hastens an unfavorable termination. Many cases also of the other sex, whose vitality has become impaired by chronic *uterine disease,* and whose local ailments have been relieved, as far as possible, by local treatment, find a no less invigorating tonic in this balmy air. *Rheumatism* and some forms of *neuralgia* are benefited. Certain forms of *dyspepsia,* particularly such as may be termed *nervous* dyspepsia, which is, like other nervous affections, becoming more and more common—which is merely one of the many symptoms of modern "wear and tear," and which is often relieved completely, for a time, by the bromides, when various other treatment has failed—are permanently relieved by a winter's residence here. Lastly, Florida offers a haven of rest and quiet for that condition which is unfortunately becoming so prevalent among the restless, driving denizens of our Northern cities and towns, which comes under the comprehensive designation of *nervous prostration;* what Handfield Jones termed *cerebral paresis,*

and which was thus described by James Johnson nearly fifty years ago.* "There is a condition of body intermediate between sickness and health, but much nearer the former than the latter, to which I am unable to give a satisfactory name. It is daily and hourly felt by tens of thousands in this metropolis and throughout the empire: but I do not know that it has ever been described. It is not curable by physic, though I apprehend that it makes much work for the doctors ultimately, if not for the undertakers. It is that WEAR AND TEAR of the living machine, mental and corporeal, which results from over-strenuous labor or exertion of the intellectual faculties rather than of the corporeal powers, conducted in anxiety of mind and in bad air." For this cerebral consumption, as we may call it, Florida affords as soothing a balm as for the pulmonary variety. It is as unsatisfactory to treat the one as the other in the stimulating and exciting atmosphere of our Northern Babylons. There everything is energy, hurry, and rush, at all times and at all seasons; when the body is at rest the mind is not. Here the tendency is always in the opposite direction. Here the Northern blasts, as they approach our borders, are gradually hushed into whispers. There the very streams seem to rush along their rocky beds as if afraid lest winter should congeal them before they reach their ocean-goal; here the swiftest currents have not enough energy to form a ripple. All Nature wears so subdued and peaceful an aspect, as one floats on the broad and placid bosom of the St. John's, that the most restless mind soon becomes attuned to the same measure of repose. Rest has come again to the wearied spirit, sleep to the fevered pillow. "All that surrounds one in Florida," says Ledyard, "is suggestive of, and in unison with, rest; and nothing is more grateful."

When shall one go to Florida? This will depend on circumstances, extrinsic and intrinsic, as regards the individual, and may be left to the judgment of the physician. But if an invalid has only a limited winter vacation, he had better spend it at the end than at the beginning or middle. "When shall one *leave* Florida or the South?" is a more important query. Many not only sacrifice all the benefit obtained by a winter residence in the South, by yielding to an impatient desire to get home too early in the spring, but are actually damaged to a greater extent than if they had remained at home. Even healthy persons, who go South merely to avoid a disagreeable winter, are rendered more sensitive to cold, and contract colds or catarrh by going North too soon. One may *commence* getting homeward in April, if he tires of sameness; otherwise, he need not move until May. But he should not get North of Virginia until the third week in May. If the climate of Florida becomes oppressive in April, Aiken, or Beaufort, in South Carolina, affords a more bracing, and, at both the beginning and end of winter, a delightful change. He should not arrive in the latitude of New York until the third week in May, better even the first of June, if he has actual pulmonary disease.

How shall one get to Florida? There are many routes, by

* "Change of Air; or the Philosophy of Traveling," by James Johnson, Physician Extraordinary to the King.

land and by sea. The feeble invalid, if he takes the former, should go by easy stages, and not rush. The latter part of the journey is so slow and tiresome that, unless he has an unusual repugnance to the sea, it would be better to take one of the very good steamers, of which there are several lines. Being once aboard, all fatigue is at an end, and the four days of sea-voyage are generally beneficial to pulmonary and throat affections. The warnings of our excellent signal-service now render ocean-travel by steamer, on the coast, almost perfectly safe. *Sea-sickness* is the dread of many. There are several means by which this may be greatly alleviated, and frequently entirely prevented. First, one may take *bromide of potassium* in doses of twenty to thirty grains three times a day, for three days preceding embarkation. This deadens nervous impressions on the centres, and blunts reflex action. I was led to infer this power of the bromides from their efficacy in preventing the vomiting induced by anæsthetics. Then, the *belt* recommended by Jobard, of Brussels, is, in many cases, a valuable preventive. It is worn, *as tightly as can be conveniently borne* (which gives less trouble to females than males), around the *waist*, and should be shaped to fit well, and be provided with bones like corsets. I have had some made at Tiemann & Co.'s, 67 Chatham Street, after Jobard's pattern.

How shall one live in Florida? This question will not be fully answered here, as it will be again taken up. Those who have a fondness for out-door life, hunting, fishing, etc., and who have the vigor to endure a little hardship, may form a party, provide the necessary equipments, and, with Hallock's "Camp-Life in Florida" and similar books as a guide, may find abundance of novelty, adventure, and game. If they need any other advice, I have no doubt my friend *Al-Fresco*, Dr. C. J. Kenworthy, of Jacksonville, will kindly furnish it to any of his *confrères* of the profession. One may live in good boarding houses at ten to twelve dollars per week, with good rooms in pleasant situations, but, if he can afford it, the hotels in most places of resort are far preferable on the score of food. This is especially the case on the St. John's, where the hotels have an exceptionally good reputation. *Good* and *well-cooked* food is a *sine qua non* in the case of such diseases as those for the alleviation or cure of which people come to Florida. Full nutrition of the body is of the highest importance, and patients should never sacrifice to it a desire for cheap board; it is better to make almost any other sacrifice. Many failures attributed to the climate are probably due to error in this respect. If appetite or digestion fail for lack of inviting or digestible food, and this cannot be obtained, the invalid had better go North and brave the cold, if he has a comfortable home. If possible, one should always secure a room into which the sun shines during a considerable portion of the day, especially the morning sun. Nothing is more cheering, and nothing is more beneficial to the chronic invalid, than sunlight. No trees should be allowed to intercept the sun's rays. If too hot, it can be moderated by awnings or blinds. A sickly plant is revivified by sunshine and light, and the invalid animal responds equally, if not so apparently, to their stimulating influence. We have banished the traditional heavy and dark-colored

hangings which formerly adorned the bedsteads of the sick. Let us equally banish them from the windows of the sick-chamber, and admit the glorious light and air of heaven to assist our tonics with what no artificial tonic can supply. Let us endeavor to cure our patients of a prejudice which James Johnson aptly terms *phœbophobia.*

With regard to the *clothing* proper for the winter climate of Florida, it is seldom that the *invalid* will want that which we wear at the North in summer, but rather that suitable for a moderate winter or late fall. Moderately thick clothing will sometimes be a little oppressive in the middle of the day, but always pleasant in the morning and evening. A tolerably thick overcoat or shawl, as the case may be, should always be taken along when one goes to ride, or in a steamboat, as the rapid motion creates a draught through the saloons. Thin woolen clothes should be worn at all times.

A most important desideratum for the invalid is *occupation*—something to give employment to both mind and body. Want of it is the stumbling-block to the improvement and enjoyment of too many of our Florida visitors. *Ennui* is a dangerous enemy of the invalid. His thoughts, when not employed upon something external, are sure to be turned upon his disease, whether imaginary or real, and usually to his detriment. "Employment, which Galen calls 'Nature's Physician,' is so essential to human *happiness* that indolence is considered the mother of misery."

Physicians, in sending their patients South, frequently advise them by all means "to avoid drugs and doctors." The same advice at home might often be good for those who have a *propensity* for too much indulgence in these luxuries (?); and doubtless has, in some instances, saved invalids here from injudicious medication and advice. But, from my experience last winter, I judge that a much larger number have been directly injured by it, and, not unfrequently, it has cost them their lives, through neglect of the early treatment of serious complications. Any physician in large practice in Florida, or any boarding-house keeper, can furnish instances of this kind. There is no prominent resort in Florida where respectable medical advice cannot be had—advice which would certainly be far better than the usual plan of trusting to luck or Nature, or the advice of lady friends, or the carefully-put-up bottles and packages brought from the North to meet all the indications for treatment which may chance to arise during a long winter. A *medical* man knows what a "little weakness in one lung" signifies, but the patient does not; or "a little pleurisy" at the apex; or "a consolidation," or "the little bronchial difficulty," etc. He knows it means, in nineteen cases out of twenty, incipient phthisis—"*consumption.*" But the patient does not, and he is very sure not to cross-question the doctor too closely, if at all. He is only too glad to have his fears allayed so easily. Behind these comparatively trivial secondary affections, there is often tubercular deposit, or, if one prefers to call it so, permanent pneumonic consolidation, or softening; or, not unfrequently, already a cavity. Many patients come to Florida with extensive softening in one or both lungs, with the consent, if not the advice, of their physician, who dreads to tell the whole truth, and to crush the bright anticipations of cure which they and their relatives have formed, through the instrumentality of

the climate of this favored region, of which they have heard so much; and, perhaps, hoping that at least a temporary lull in the progress of the disease may be obtained. When an early death occurs, with none, perhaps, but strangers around, and the body is, according to custom, sent home by express, then the physician's reputation suffers, or that of Florida. If he is right Florida is wrong. But Florida cannot work miracles. It is true the physician is often met at the threshold, by the friends of the invalid, with the caution, and often *quasi* command, "Don't tell her she has consumption—it will kill her if you do!" One may well say, on the contrary, "It will kill her if you don't." In the long run, the effects of the deception are far worse than those of the truth. Consumption is as curable as any other chronic affection—more so than many of them, if we can command the *conditions of cure*, if the patient can avail himself of the proper remedies. Most diseases would be incurable without a resort to the proper remedies. It so happens, however, that most of the best remedies for this disease are unattainable by the majority of those afflicted by it; also, that most patients, influenced by the delusion which is so characteristic a symptom, and often by the concealment of physician and friends, delay treatment. Hence its great fatality. The cure of phthisis will never be found in any drug or any combination of drugs, although these are valuable, and, indeed, in most cases, indispensable *auxiliaries*. There is no disease in which skillful diagnosis, sound judgment, judicious advice as to habits, occupation, climate, all the minutiæ which enter into individual daily life, are so well repaid by corresponding success as in this. *Change* is generally the key-note to our management of incipient phthisis—change of locality, of air, of almost all the habits, leaving off bad and adopting good; *ventilation*, *exercise* (judiciously managed), *food*. Now, it would be mockery almost for us to say to the poor shoemaker, or compositor, or tailor: "Your only chance is change of climate, of occupation; you must give up your close room with its confined and poisoned air. You must take to the sea or the farm, to out-door work and regular exercise, good food, sound wine, fewer hours of work," etc. We are driven to the only alternative. When we cannot get the *proper* remedies, we must do the best we can. We prescribe such hygienic rules as *can* be observed. We prescribe cod-liver oil, phosphorus and its compounds, palliatives for cough, etc., and we thus lengthen and render more tolerable the lives we cannot save. Sometimes, even under these untoward circumstances, we do save life. All do not die, by any means. The physician who, at this day, consigns his consumptive patient to the realms of despair, even in the more advanced stages of the disease, without an effort to save him, scarcely appreciates his mission to its fullest extent.

It is a very common occurrence, and one of the greatest nuisances of Southern watering-places in winter, for patients to lose their sleep, night after night, for weeks sometimes, with a most severe and persistent cough, and seemingly not to be aware of it. At all events, they consult no physician; and the distress and insomnia, and other troubles arising from it, sometimes completely counterbalance any good effect they might have derived from the climate. Hotels sometimes lose some of their best families in consequence of one person

on a corridor coughing night after night. It would be tiresome to multiply these examples. One might adduce scores. They are mentioned as a hint to those who may be benefited by them. They are not, by any means, overdrawn. The writer is willing to risk the suspicion that he may have a selfish object. Those who know him will give him credit for a better motive. The following remarks of a writer* than whom no one is better qualified to give advice on this subject, are so appropriate in this connection, that they ought to be quoted at length : "Let not the invalid, however, trust too much to a change of climate. Unfortunately for the character of the remedy, it has been recommended indiscriminately, and without proper consideration. It has been too often resorted to as a last resource or a forlorn hope; or, in cases susceptible of alleviation or permanent cure, it has been wholly misapplied. One person is hurried from his native land with the certainty of having his sufferings increased, and his life shortened, instead of being allowed to die in peace in his own family; while another, who might derive much advantage from the change, is sent abroad wholly uninstructed in regard to the selection of a proper residence, or ignorant of the various circumstances by which alone the most suitable climate can be rendered beneficial. It is one of our most powerful remedial agents, and one which, in many cases, will admit no substitute. But much permanent advantage will result neither from traveling nor change of climate, nor their combined influence, unless the invalid adheres strictly to such regimen as his case may require. This remedy—change of climate—must be considered in the light of all other therapeutic means, and, to insure its proper action, it is requisite that the necessary conditions be observed. The patient should, in a measure, regard the change of climate as merely placing him in a situation more favorable for the operation of the remedies demanded by his disease." These remedies, whether local or general, or both, though ineffective in a northern climate, may become curative when aided by the healing influences of a southern climate and out-door exercise and employment.

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Apples are good or bad food, according to circumstances. They are often put up in second-hand barrels, or stored in old cellar bins which have the dust and refuse of the decayed fruit of the year before adhering to them, and withal in damp, undrained, musty cellars, proverbial for not being good keeping places for fruits and vegetables. Thus stored, apples are very unwholesome food, and so are potatoes, parsnips, turnips, beets and all the edibles of the household, and the family—good for the doctors.

Fine flavored, crisp fruits, and tender, juicy, digestible vegetables, as winter food, alike proceed from careful handling, and cleanly, cool and dry store-rooms; and the families who are careful of these conditions rarely have need of the doctors.

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* Forry, *op. cit.*

SCARLATINA IN BALTIMORE AND BELAIR, Md.

Read before the American Public Health Association, Boston, Oct. 6th, 1876. By John Morris, M. D., Baltimore.

A few years since Dr. Alfred Carpenter, of Croyden, published some original and suggestive views in regard to the causation of scarlet fever, which greatly attracted my attention, and I determined to seize the first opportunity to verify their accuracy. Dr. Carpenter holds that inasmuch as scarlatina has been found less amenable to prophylactic measures than some other enthetic diseases, and that, as it does not depart from those places in which the usual sanitary operations have been carried out, such as the supply of pure water, the abolition of cesspools and the construction of properly designed sewers, it must, therefore, possess an element different and distinct from typhus and typhoid fevers. It is his opinion that it can originate from the decomposition of the blood of vertebrate animals, and that in those districts where much blood passes into the sewers and then becomes putrid, scarlet fever is almost sure to arise. A recent outbreak of this disease in Baltimore has, in my judgment, afforded some confirmatory proof of the correctness of this theory. This outbreak appeared to originate, and at first, in a great measure, to be confined to a portion of the city in which there are a large number of slaughter-houses. I determined to make a thorough examination of this locality, with a view to discover if such a condition of things existed as Dr. Carpenter argues will produce scarlatina, *de novo*. Investigation discovered a small stream a few feet wide running for more than half a mile from the hill on which the slaughter-houses before mentioned are situated, down into a tract of low, unoccupied ground. The water of this run is stagnant, and any organic matter that may be in it can only be removed by heavy rains. On a first visit a bottle of this water was taken for examination, but in less than twenty-four hours it became filled with maggots, and a second supply was procured and placed in the hands of Mr. Bellerman, a chemist, who furnishes the following statement:

Examination of Water.—The water was turbid and of a reddish color, putrid odor and alkaline reaction.

To 0.5 litre was added 0.5 grammes pure sulphuric acid, the mixture heated to about 70° C. and then triturated with a solution containing 1 gramme permanganate of potash to 1 litre of distilled water, of which it decomposed 522 C.C. During the operation there was a decided odor of the volatile acids resulting from the decomposition of fats.

According to Prof. Weil, of Giessen, good drinking water should require not more than 1 to 6 C.C. of this solution to the litre.

My friend and former pupil, Dr. Seldner, of Baltimore, subjected a portion of this same water to the action of the microscope, and found it filled with fat cells and germs of organic matter given off from the decomposition of blood, and corresponding exactly to the description given by Dr. Carpenter. In the neighborhood of this run,

or putrid stream, the mortality was very great, the disease assuming a most malignant form. Dr. Russell, a respectable physician, states that the first five cases to which he was called on Chapel Street, in this vicinity, proved fatal. In another portion of the city, lower down, but in the same section, called Canton, a very large number of cases have occurred during the past year. A dirty, stagnant stream or run, called "Harris's Creek," flows along this part of the town, and empties into the river at the lower side. Into this creek, through a number of imperfect drains, across a marsh or low piece of ground, runs the blood and refuse matter of a number of slaughter-houses. At several points the air reeks with the foul effluvia.

A slight epidemic of scarlatina also prevailed about the same time in Belair, Md. Belair is a small town containing from eight hundred to a thousand inhabitants, and had been, heretofore, unusually free from diseases of a zymotic character. About twenty-seven cases of scarlatina occurred in all, the origin of which could not be traced out by the medical men of the place, though they believed it was due to importation. On looking carefully for local causes none could be discovered of sufficient magnitude to account for the invasion of the disease. A small stream runs across the town near its upper portion, and though stagnant at the time of examination, and bordered by decaying vegetable matter, did not appear a possible cause of the epidemic. The only slaughter-house in the town is about one hundred yards from this stream, but no communication could be traced between them. How the blood is disposed of was not apparent. Though there were cases of scarlet fever in the vicinity of this slaughter-house, the first cases did not occur there, and, therefore, the conclusion cannot be drawn that it was the exciting cause of the local trouble.

That a much larger number of scarlatina cases have occurred in the eastern portion of Baltimore, the section exposed to the poisonous exhalations of the stagnant runs already described, is a well ascertained fact. This preponderance of cases must be due to some local cause. Another fever irruption, called typho-malarial by the authorities, has taken place in the same part of the city half a mile or more from Harris's Creek. It, too, has its origin in local causes, but of a different character. The decomposing elements that produce one disease will not, apparently, generate the other. The factor, decomposing blood, does not obtain in the locality of the typho-malarial cases. It has its existence, however, in that visited by scarlatina.

From the foregoing facts, and from past experience, I am convinced that there is a great deal of force in the opinions of Doctors Carpenter and Budd, in regard to the etiology of scarlet fever. I believe with Doctor Carpenter that there is a morbific element that enters into the scarlatina poison not to be found in the poison of typhus and typhoid fevers, and not subject to known sanitary law, and further, that this poison is of an animal, not a vegetable nature. It may not result from the decomposition of the blood of vertebrate animals, but have its origin in the decomposition of other animal matter. As to the propagation of scarlet fever by the infection of sewers in which animal matter is confined, I have not the slightest

doubt. That an accumulation of alvine and venal discharges in sewers will produce the same effect as suggested by Dr. Budd, is also very possible. If Dr. Budd's theory is correct it affords an explanation of the prevalence of scarlatina among the better classes. The water-closets in the houses of the wealthy are frequently defective, and the excrementæ are therefore retained in the pipes to poison the surrounding atmosphere. Medical men in attendance in dwellings of the rich are too often made painfully sensible of this condition of things. The prevalence of scarlatina in camps and military stations remote from centres of contagion can be explained in a like manner. This view of Dr. Budd, taken in connection with the theory of Dr. Carpenter, is worthy of serious consideration, and it is my purpose to pursue the investigation further whenever opportunity is afforded.

In the future, however, it seems to me that a large share of the work of sanitarians should be devoted to the seeking out of the causation of this disease. The knowledge that typhus fever can originate from over-crowding, and typhoid from the effluvia of excremental matter, gives to sanitary authorities power not only of prevention, but control over both these diseases. Let as much be known in regard to the origin of the even greater scourge of our civilization, scarlatina, and we may then indulge the hope of its arrest, if not final extermination.

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"How Dreadful is This Place!"—A down-town church in New York, after going through the process of an elegant frescoing, recently invited the attendance of the newspaper reporters, and among the rest, of the *Sun*, forgetting for the time, the cultured intelligence on sanitary subjects peculiar to the reportorial staff of that paper.

Among other elegant things prominently noticed in the *Sun* of the next day were the elaborately executed scriptural mottoes on the church walls. One of these, quoted from Jacob's exclamation at Bethel, reads: "How dreadful is this place! this is none other but the house of God." The reporter goes on to remark: Considering the fact that there is a total absence of ventilation, and that a great many of the tenement-house population worship at this church, the scriptures could hardly furnish a more appropriate motto than "How dreadful is this place." It is a dreadful shame for people to be untidy in their persons, or to go unwashed to the house of the Lord; and it is a dreadful piece of carelessness for a building committee to make a church so much like a packing box that the foulness thus communicated to the air cannot get out of doors. They seem to be afraid to turn that bad air out of doors, probably for fear it will pollute the neighborhood. So the sexton locks it in by shutting all the doors and windows as soon as the congregation depart.

SCHOOL-HOUSE LIGHTING.

In two letters addressed to the Prefect of the Seine, M. Emile Trelat, the learned Professor in the "Conservatoire des Arts et Metiers," shows with great clearness the necessity there is for:

"Admitting the light into class-rooms of school-houses from *one side only*, and that it be of sufficient intensity to reach the remotest part of the room."

He begins by showing, 1st. That the mode of lighting the class-rooms in school during the day, lighting them bilaterally or by cross-light, forms the most pernicious way in which the plastic sense of sight, in young children especially, can be developed.

2nd. That the method of lighting from *one side only*, which has been made obligatory in many countries, has been introduced as a remedy for a great evil; a decree in the interest of public hygiene.

The greater number of the German States place the subject of lighting the class-rooms in schools among the most important that can engage their attention.

"It should be an object of the greatest solicitude to take the best possible care of the sight of the pupils during school hours. A light that will be at once sufficient and properly distributed is a matter of imperative necessity for every school."

The following table shows that there are 2 near-sighted in every 100 in primary schools in the country; 9 near-sighted in every 100 in primary schools in cities; 18 near-sighted in every 100 in high schools for girls; 44 near-sighted in every 100 in national schools; 55 near-sighted in every 100 in gymnasiums. Dr. Hermann Cohn, of Breslau, has gone so far as to conclude that near-sightedness is developed as instruction is advanced.

Other observers have declared that near-sightedness is the product of civilization, (Dr. Giraud-Teulon); that it is developed almost exclusively during the period of school attendance; that the number of near-sighted children is greater in those schools in which the light is so badly arranged as to be unfavorable for the exercise of vision (Dr. Liebreich); that under the influence of bad light children turn in different positions to relieve the strain; that they give way to the influence of light in some degree as trees yield to the light of the sun.

In studying the physiological functions and the anatomical structure of the eye, we find that it must consist of a wonderfully complex mechanism in order to enable it to collect and distinguish objects under degrees of light of very different intensities and at variable distances.

When the eye receives an impression from an object fully illuminated, the pupil through which the visible rays penetrate to the retina retracts. It becomes enlarged or expanded in contrary conditions. This is *adaptation*.

When the eye receives impressions from bodies at a distance the pupil opens and the crystalline lens becomes flattened; when the objects are near the pupil closes, and the crystalline lens becomes convex; this is *accommodation*.

But, however admirably these functions may be performed, we should not forget that the most healthy eyes have many defects (M. Laugel,) and that vision for that reason will never be perfect.

If to defective conditions inherent even in the eye of the child we add the inconveniences arising from imperfect lighting we necessarily increase the dangers of near-sightedness, and we are therefore led to these conclusions:

1st. The constant exercise of the organ of vision at short distances in children is a direct menace to near-sightedness.

2nd. Bad and defective illumination of class-rooms are the factors which change this real menace into actual danger.

It was to remedy this unfortunate state of things that the government of Wurtemberg, in December, 1870, issued the first decree for the purpose of establishing a proper sanitary supervision to preserve the eyes of the scholars, from which we select the following:

The windows should be so arranged that the light shall reach the scholar from the *left*.

The light in front coming from behind the teacher's desk should be *absolutely condemned*.

The light coming from opposite sides through the long partitions (cross-light,) should be suppressed.

The height of the wall beneath the windows should never be less than one metre, (39½ inches); for the light that falls under the desk is useless, and may be injurious.

To protect the eye against too strong a light from the sun, curtains or shades should be placed in proper positions, and we should be particularly careful to *prevent the entrance of light from both of the opposing sides*.

Near-sightedness seems to be less common in England than in any other countries, perhaps because the children live more in the open air, and consequently rest the eye on distant objects in the field for a relatively longer period during the day.

However, some schools had been inspected by the Committee of the Council on Education, which had established this curious rule :

"The light should be so arranged as to fall directly on the face of the teacher and of the scholars."

Those who have followed with any attention the comparative study of the English and French solutions of the same questions, will easily recognize in this case the opposition always met with. Our system directs *bilateral* lighting, or *through the sides* of the room. Wherever the English recognize any system, they direct from *front* and *rear*. The former may be excused, if, in our system of education, we pay no attention whatever to the health of the eye. The latter cannot be defended under any circumstances.

We may sum up the opinions of Liebreich as follows :

"Near-sightedness, and other diseases of the eye, arise from insufficient light, or from the bad arrangement of rooms in which children study, and from the faulty positions they occupy in regard to the light, while they are at work."

Although near-sightedness is not by any means so general in France as it is in Germany, it is still very important for us to take care of the sight of the children attending school.

To favor the education of the sight in children at school, and to preserve the health of the scholars' eyes, it is necessary to adopt the plan of lighting school-rooms *from one side only.*

We heartily accept this wise innovation, as above stated, and at another time we purpose to give a synopsis of the brilliant and very able discussion on the subject, that was participated in before the Academy of Medicine, by MM. Giraud-Teulon, Ferrin, Giraldès and Jules Guérin.—Le Dr. E. Body, dans le *Journal d'Hygiene*, du 15th June, 1875.

It is with feelings of unavailing regret that we can give a ready assent to most of the foregoing propositions. Near-sightedness is becoming very common in the United States, much more common than it was twenty years ago.

Health is a blessing which we do not sufficiently prize, and persons who are blessed with healthy eyes do not usually sympathize with those who suffer as they should. Placed during our early school-days in such a position that the sunlight during the day, and the gas-light at night, during study hours, fell full in the face, so as often to make the eyes ache, as they then seemed, back to the brain, we have never since recovered from the injury inflicted; and even as we now write the feeling is forcibly recalled by fatigue.

We would earnestly urge upon all who are entrusted with the care of children, to give serious consideration to the principles above stated.—*Crede Experto:*—Translator.

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Dirty Dogs.—It has been remarked by some one, as not a little strange that the Bible never says a good word for dogs. It may have been, in those Eastern countries in ancient times, dogs were but little domesticated, or that they had no masters in particular—no one to look up to, as in the least interested in their welfare—and that they were left to prowl about, half starved, and not caring for anything but to satisfy their own craving appetites, very like many of their modern masters; sad dogs when they only have themselves to look up to and to rely upon, are greatly in need of other and better care. All men—and dogs—are the better for having some one to care for them; and those who say they care for nobody, and nobody cares for them, are dogs of the worst breed, and for a certain reason are never likely to be drowned.—Beware of dirty dogs, or, as St. Paul calls them, "evil workers"—those who love filth and roll in it. *Dirty dogs* will spoil your clothes, and make you as foul as they are themselves. A man is known by his company; if you go with loose fellows, your character will be tarred with the same brush as theirs. People can't be very nice in their distinctions; if they see a bird always flying with the crows, and feeding and nesting with them, they call it a crow, and ninety-nine times out of a hundred they are right. If you are fond of the kennel, and like to run with the hounds, you will never make the world believe that you are a pet lamb. Besides, bad company does a man real harm, for, as the old proverb has it, if you lay down with dogs you will get up with fleas.

THE GASES OF DECAY IN SOME OF THEIR SANITARY RELATIONS.

Read at the meeting of the American Public Health Association, at Boston, Oct. 6th, 1876, by PROF. WM. H. BREWER, of the Sheffield Scientific School, New Haven, Connecticut.

In these latter days so much has been said about the gases of decay and their relations to health and disease, that I can hardly hope to add anything absolutely new in the few minutes I shall occupy of your time. I only hope to call attention to some chemical phases of the subject which I think it important to keep in mind in the practical treatment of the sanitary questions they relate to, and to make these the hooks to hang a few questions upon, which I wish to ask about the best methods of ventilating sewers. Pardon me, therefore, if I allude at first to some very elementary facts.

What chemists call "*organic*" substances in nature are all products of life, directly or indirectly. They are vast in number and of wonderful variety of character and composition, agreeing only in this, that they all contain carbon combined with oxygen, nitrogen or hydrogen, sometimes with other elements, of which only sulphur and phosphorus, or, indeed, only sulphur, need here be considered. All organisms, unless of the very lowest forms, are built of a considerable number of complicated chemical compounds, which compounds, when brought under other conditions than those which produced them, have a tendency to decompose, and, if the conditions are favorable, to be resolved again into their original elements, or else into certain simpler compounds which are called "mineral." Now this decomposition in nature we call *decay*, and in its sanitary relations it may be considered in two stages, viz.:

1st. The more complex chemical combinations break up into those of simpler formulas by a re-arrangement of the molecules.

2d. These resulting compounds all ultimately return to their elementary condition or to oxides.

If the original organic compound or organism contained much nitrogen, and the right conditions of moisture and temperature exist, we have what is called putrefaction, and stinking gases are evolved, the term putrefaction being a popular term rather than a scientific one. The stinking gases are without doubt mostly organic compounds, and may be destroyed by oxidation or further decomposition. In nearly every stage of the process there are resulting compounds which may be the food of new organisms, animal and vegetable, but particularly the latter, some of which act in such a way as to hasten the change, as in the case of ferments and many fungi; others simply use such compounds as food, without affecting the source of it. In either case the natural decay is arrested or modified so far as the compounds which are used by the new beings are concerned. As before said, when not thus arrested the process goes on until the mineral matter is returned to its original "dust," and the remainder into gases. This last is, indeed, very much the larger portion. The ultimate products are comparatively few, but during the process many

compounds are produced, some of which are gases, the gaseous mixtures being complicated ones, and the experience of ages has shown that some of these gases or their mixtures are hurtful to health.

In a comparatively few cases we can see a chemical reason for this, but in a vast number we have the fact, while the process is yet secret. A few of the gases of decay are well known to chemists; they have been isolated; we are familiar with their properties; but they are mostly those gases formed in the later stages—carbonic acid, ammonia, marsh gas, sulphureted hydrogen, nitrogen, possibly carbonic oxyd; these are all well enough known, two at least are disagreeable to the smell, and some of them are harmful to health if present in the air in any considerable quantities. Neither of these produce the diseases prominently associated with filth gases; they certainly do not generate such diseases, nor is it proved that they are especial carriers of their germs; nor, indeed, do they specially aggravate the symptoms of such diseases more than any other unwholesome condition does. Moreover, it is not proved that any or all the gases I have mentioned (unless it be sulphureted hydrogen) occur in our houses in sufficient quantities to be very hurtful, except in very rare cases indeed. I use the old and well-known names for the gases rather than the new ones; most of us are more familiar with the term carbonic acid than with carbon dioxide, and so of the others.

Regarding sulphureted hydrogen, we know that it is poisonous, and its action on arterial blood is a common lecture-table experiment. Yet I cannot but think that its unhealthiness is overrated; we may perceive it often in the analytical laboratory, or in the neighborhood of a sulphur spring, vastly ranker than I have ever smelled it in a sewer or privy, and the persons there subjected to it do not usually suffer any considerable inconvenience. Carbonic acid is the most abundant and is poisonous, yet when diluted seems not to be very hurtful if generated from other than decaying substances, as about lime kilns and furnaces. Its great interest and importance to the sanitarian is mostly in the fact that in certain investigations, such as the determination of the impurity of the air in assembly rooms, it is the measure of other impurities. In such cases its proportion in the air can easily be determined exactly, while the more subtle and more hurtful accompaniments cannot be so measured. A candle in a room may consume as much oxygen and generate as much carbonic acid as a person, yet no one claims or believes that one man and a hundred such lighted candles in a room would make the air as unwholesome as would a hundred persons and one candle. Carbonic acid is not wholesome, but it is not the worst element in the air of a crowded room, or of the gas that escapes from a sewer or cesspool. The nitrogen contained in the original organism during some stage of the process is, perhaps, largely resolved into ammonia, this in turn to be ultimately oxidized. As a product of decay, ammonia is, perhaps, always in the milder form of carbonate, and only in the rarest of cases abundant enough to be specially hurtful. Where oxygen and nitrogen, as such, exist, whatever be their source, they are not poisonous; surely oxygen is not, and nitrogen is inert and negative, not positively poisonous. Phosphureted hydrogen is often spoken of as one of the products in the decomposition of animal matter, and we

have stories of the will-o'-the-wisp as an alleged proof of its occurrence. I have sometimes thought I could perceive its peculiar odor in the rank stench of small animals rapidly decaying in hot weather. It is often affirmed that animals or fish rotting under water or in mud generate it, and that it is one cause of the unwholesomeness of such exhalations. It seems to me very questionable if it is produced under ordinary, if, indeed, under any conditions in nature. With another chemist, some years ago, I conducted a long and careful investigation of the gases generated by fish decaying under water, one of the objects of which was to test this very matter. We failed to find even a trace of phosphureted hydrogen by the most refined tests then known. Marsh gas or light carbureted hydrogen is one of the products of decay under certain conditions. Inasmuch as it is known to be generated in swamps and shallow water with decaying matter at the bottom, the hypothesis is often put forth that it is an ingredient in, or even the cause of malaria. I need not tell you that this is mere conjecture; there is not a particle of proof, and no such effects follow the breathing of this gas when generated in the processes of the arts. If carbonic oxide is ever generated in decay, it is only under very peculiar conditions and in infinitesimal quantities, and may here be disregarded.

We have now exhausted the list of gases known to chemists as being generated in the ordinary processes of decay, and none of them seem capable of producing the effects that *sewer gas* is known to produce. This last seldom or never gets into our houses in sufficient quantity to materially diminish the relative amount of oxygen, or to poison with carbonic acid; yet its results are not negative—it acts as a poison, and the physiological effects are unlike those which follow the breathing of any of the definite gases I have named, even of such of them as are known to be poisonous.

If the physiological effects which follow the breathing of sewer gas, so called, are produced by actual gases acting chemically, then these gases are as yet absolutely unknown to chemists, and if they exist at all they are in too small quantities to be estimated by any known process of gas analysis. This, however, is no proof that they do not exist. The sense of smell tells us that there are organic gases and compounds never yet isolated, and of whose composition and properties other than their smell we are entirely ignorant. Indeed, we are ignorant of the composition of most of the *smells* of putrescent matter. In the investigation of the gases from rotting fish, of which I have spoken, the gases were very stinking, intensely so, yet the actual amount of the gas which had the odor was too small to be detected by the ordinary means of gas analysis, and these analyses were conducted under the eye, and some of them with the aid, of Prof. von Bunsen, then, as now, the most eminent gas analyst in the world. The analyses of sewer gases point in the same direction. For example: the results of some experiments on the air of sewers and drains are given in the Report of the British Association Sewage Committee, 1869–70. Specimens were collected from various street and house sewers, chiefly in the Paddington District, and during August, so that there is every probability of the air being as foul as possible. They were chemically examined by Dr. W. J. Russell. The most

impure air contained half a per cent. of carbonic acid, the remainder was oxygen and nitrogen, so far as discovered by analysis. Another "with a foul smell" contained only $\frac{1}{8}$ of 1 per cent. of carbonic acid. There were "no combustible gases." In their investigations they found only small traces of ammonia, and often no sulphureted hydrogen. It is needless to multiply cases. It is not, of course, denied that sewer gases have been found so concentrated and foul as to produce suffocation, but very bad effects are well known to often follow the admission of such minute quantities into our houses that they can barely be perceived, much less suffocate. That it lowers the tone of health and sometimes produces active disease in those who are subjected to it, is too well proven to admit of a doubt. So far as this first effect occurs, lowering the tone of health, we can easily imagine it to be produced by *chemical* causes. Definite physiological results are known to follow the absorption into the system of definite chemical compounds. The effect of medicines and of poisons are illustrations too common to need more than a reference to them. The agent may work speedily, as in the case of active poisons, or slowly, as in the case of cumulative ones. The effects may be gentle, as with certain tonics, or violent, and, as in arsenic poisoning, take a somewhat definite time, like a fever running its course; but in all poisoning by chemical means the physiological effect is largely proportional to the amount of the chemical used, and the effects cease with the victim. Moreover, the results are reasonably uniform.

This is very unlike the effects believed to be caused by sewer gas or other "filth gases," where the results are by no means uniform, nor do they appear to be at all proportionate to the amount of the gas breathed, nor to its degree of concentration. More than this, the results do not stop with the victim; typhoid fever, once started, may extend to we know not how many other victims if the right conditions exist to carry it, and this brings us face to face with that mooted subject, the *germ* theory of zymotic diseases, a theory so generally accepted by chemists, so strongly combated by some of the most eminent microscopists and physiologists.

That typhoid fever has been caused by the escape of gases from sewers and cesspools into houses seems to me to be proven beyond a reasonable doubt. For illustration, in the now famous town of Croyden special cases are mentioned (ninth Rep. Med. Officer of the Privy Council, 104) where the disease is supposed to have been distinctly traced to this cause. The gas was known to have been driven into the house; it "did not smell offensively, only a faint, sickly odor being recognized." In this case the gas was driven into the house by a shower filling the conductors with water. Other cases at the same time are believed to be traceable to the same source. The odor was generally not rank, "a faint odor alone being recognized." I think it is generally conceded that typhoid, once started, may be propagated from patient to patient through the medium of the evacuations. Now all this is unlike the operation of any known chemical compound, gaseous or otherwise. Again (from the same report), the outbreak of cholera in the city of London, Union Workhouse, in 1866, investigated by Mr. Radcliffe, was shown to have taken place in all probability from a sudden efflux of "sewer air from a drain containing

choleraic evacuations," this efflux being caused, or at least favored, by a sudden change of atmospheric temperature and pressure. Here again the gas, or "sewer air," spoken of as the agent, is not necessarily a "gas of decay;" yet, if a gas at all, it must have been an organic gas, acting as a poison, but how unlike all actual chemical poisons, where the agent is a known chemical compound.

Again, decay of filth in the dark, and away from free access of air, is supposed to be productive of gases especially dangerous to health, more so than when the decay goes on in the light and free air; and moreover, that sewer gas is rendered less hurtful by a free circulation of air in the sewers. That this last is not due to mere dilution is shown by the deleterious character of the gas when diluted only after it enters the houses.

Considered purely as a chemical question these facts, if facts, are entirely inexplicable. If the germ theory is accepted, a plausible explanation is more easy. It is possible to imagine a condition of things in decaying organic gases similar to that which occurs in decaying organic infusions. It is known that such infusions soon swarm with minute organisms, the almost universal occurrence of which in such connection gave them the general name of "*infusoria*," and that different forms are generated, according to the different chemical characters of the solution. The changing organic compounds in the fluid are doubtless the food with which these low organisms are nourished. Certain specific forms thrive best in certain definite infusions, and appear there when given the proper temperature, and, once started, they increase and multiply as do other organisms. Now it is easy to imagine an analogous state of affairs in decaying organic gases. Moisture is always an element in the unwholsome gases of decay, and along with it are some gases that are organic, generated by the breaking up of the more complex molecules. Their quantity may be small compared with the whole volume of gas with which they are mixed, and yet sufficient to nourish floating organisms, just as a mere trace of solid matter dissolved in much water, making a very weak infusion, is often nutritious enough to support its swarms of infusoria. If this be the case, it may possibly explain the anomaly that dilution of gas with air within the sewer renders it comparatively harmless, while it may be very poisonous if it is diluted only after it enters our houses. Thus if the analogy is good that floating organisms, which may be the germs of disease, feed on and multiply in the decaying organic gases of sewers, as infusoria feed on and multiply in infusions when the temperature and degree of concentration are favorable, then such floating organisms, after having been once produced in the sewer, and then admitted into the house, would not be destroyed by dilution of the gases in which they float, while, on the other hand, proper dilution with air within the sewer might, by oxidation or in other ways, prevent their generation, or at least so impair the conditions that they cannot multiply in harmful numbers.

The belief that malaria is related in some way to the gases of decay has already been referred to. That it is often so associated in moist air is well enough known. The draining of swamps and giving the air access to the vegetable mud accumulated in such places, the clearing of land and consequent rapid decay of the

accumulated leaf-mold, have often been related to the existence or spread of malarial diseases. Even the decaying leaves of our shade-trees in the streets are often accused of adding to the malaria of a region. In these cases the decay goes on in free air and light, and the gases are diluted to the last degree as soon as liberated from the generating mass. Yet here, too, we can understand how organic gases may be concentrated enough, before being poured forth into the atmosphere, to give the requisite nourishment to the organisms or "germs." Such decaying vegetable matter is very porous, it contains air as a sponge may water, and this air, permeating the decaying substance, cannot be otherwise than highly charged with the products of decay, ready to be driven out in several ways. Take rotten wood as an example: the measure of its porosity is seen in the difference of weight when wet and dry. A little experiment tried for another purpose the present week may be used as illustration. A few days ago, where some workmen were repairing the wooden pavement in one of the streets of our city, I picked up a few pieces of the half rotten wooden blocks. They were saturated with the water of the recent rains. Two pieces weighed, as they came from the pavement, respectively, 287 and 130½ grams. They were then left on the table in my study four days, and then yesterday weighed again. They were not yet dry by any means, yet they weighed, respectively, only 154 and 54½ grams. That is, as thus dried, one will absorb 86 per cent., the other (and most decayed) 139 per cent. water, before saturation. It is easy to see how much foul air in a concentrated form, a half rotten wooden pavement may hold, to be driven out by the first shower or by any other cause that disturbs the equilibrium of the atmosphere.

I did not intend to say so much of this germ hypothesis, but have been led to it by looking at the chemical side of our inquiry. In our city we are discussing the subject of better ventilating the sewers. I have been trying to get light on this rather new problem, new, at least, with us, and the more studied, the more necessary seems to me such ventilation, even on purely theoretical grounds. If the chemical hypothesis of poisonous gases be the correct one, then by perfect ventilation we secure more speedy oxidation, and get those ultimate gases which we know do not produce the active diseases which we believe to be due to sewer gases. If, on the other hand, we accept the germ hypothesis, that such diseases are caused by specific organisms, then by ventilation we may impair the conditions which produce such organisms, or under which they multiply. If any one has facts bearing directly on this subject, or can give the actual experience of any American city in securing thorough sewer ventilation, and what its effects have been, I would be pleased to confer with him.

SANITARY ENGINEERING AT THE CENTENNIAL.

PROCEEDINGS OF NEW YORK PUBLIC HEALTH ASSOCIATION, NOV. 9, 1876.

Mr. James C. Bayles, of the Committee, gave an interesting description of some of the most serious defects in the drainage and water service systems of the Centennial, from which we condense the following:

"I have here a plan of the Centennial Exhibition, somewhat roughly drawn, but correct as to scale, which is about that of $1\frac{1}{2}$ inches to the 100 feet. It shows better than I can describe it the arrangement of the various buildings and their drainage." Mr. Bayles then described the map and located the various buildings, and continued as follows: "The red and blue double line marks the shore of the Schuylkill River. Just beyond you will notice the outline of a long, narrow island, between which and the shore is a sluggish canal. It is so narrow and shallow that a boat drawing seven feet of water will barely float during much of the year; its passage stirs up the mud on the bottom throughout its entire length, and the water is agitated in all parts of the somewhat irregular prism of the canal. Into this canal flow the two streams which are indicated by these red lines. The one on the left, which discharges the outflow of the chain of pretty little lakes which are such an attractive feature of the grounds, flows through what is known as Lansdowne Ravine; the other flows through what is known as Belmont Ravine. Both discharge into the canal, as shown. The street running east and west between the Main Building and the Art Gallery, and so along one side of Machinery Hall, is known as the Avenue of the Republic. The buildings on the south side of this avenue—namely, the Main Building and Machinery Hall—drain into the Girard Avenue sewer, and so far as I know are pretty well drained. The water-closets and urinals are by no means free from defects, but they are probably as good as one could expect to find in such a place, and are kept clean. The drainage of the other buildings within the grounds is effected in part by discharging into leaching cesspools, and in part through waste pipes emptying up into one or the other of the streams which empty into the canal. Following these streams from mouth to source, I found a great many such inlets, some large and some small, but all discharging a good sized stream and one or two copiously. Owing to the difficulty of finding any one able or willing to give me the information I wanted, and not being able to procure any map or plan of the drainage system of the grounds to consult at my leisure, I could not in all cases tell from which buildings the various inflowing streams of foul water came. I judge that none of the many water-closets wasted into these drains, as I could find no indications which warranted such a conclusion; but there are several urinals which drain directly into the streams, and their position will be seen by reference to the map.

"For more than half their length these streams are extremely foul, and the ravines through which they run are certainly very unpleas-

ant places to visit. They have, however, been very popular during the whole summer. Here thousands of visitors have come to picnic on the grass and eat their dinners, and their number is attested by the fact that there is scarcely a blade of grass left on any of the gentle shaded slopes which look so pleasant, but which I am compelled to say smell horrible. The shadows of the trees which have lured so many unwary people to the dangerous pleasure of resting under them, are like the shadows of the deadly upas, not through any fault of nature, but because the hand of man has converted these pretty ravines into foul sewers.

"Of Lansdowne Ravine I can only say in plain words, it stinks; of Belmont Ravine, that it stinks worse than Lansdowne. The water, of which I procured samples for analysis, is in both cases very much polluted; that from Belmont Ravine is turbid, full of floating particles of organic matter, and so offensive that, when poured into a beaker for treatment with permanganate of potash, it was necessary to hold it at arm's length. The other is not so bad, but that it receives a great deal of foulness of one kind or another is shown by the offensive smell which pervades the valley through which it runs.

"As I have said, these two polluted streams discharge into the canal before described at the points shown on the map. Between these is the building containing the Worthington pump, which draws from the canal the water distributed through the grounds. To help matters a little, the Centennial authorities caused a channel to be cut through the island opposite the pump house, hoping that an inflowing current from the river would help to purify the water in the canal. The object sought does not seem to have been attained, as the slight current seems to go the other way, thus concentrating the discharge of the two streams at the point whence the water is taken to supply the several buildings to which the temporary service extends.

"The double pollution of water and atmosphere, combined with the unsanitary conditions resulting from the leaching cesspool system, of which I have not had time to speak, seem to me to fully account for much of the sickness reported as caused by visiting the Centennial. Of course, a very large proportion of visitors were imprudent in over-exertion and injudicious eating and drinking, but diseases of the zymotic type contracted at Philadelphia are, I think, largely accounted for by the facts I have mentioned. If the intelligent visitor from abroad were to judge of the progress of sanitary science in America from what he sees at the Centennial, either among the exhibits or in the arrangements of buildings and grounds, he would be justified in concluding that we were ignorant of some of the simplest and most obvious of hygienic laws. The Commissioners have probably done as well as they could, considering the nature of the arrangements made by the Board of Finance, but it must be confessed that, regarded from a sanitary stand-point, the drainage and water supply of the Centennial are matters of which we have good reason to be ashamed."

Mr. W. E. Partridge, who has given much attention to the subject under consideration, followed with some remarks of great interest, using Mr. Bayles' map of the grounds by way of illustration. He said:

"I was at Philadelphia during, perhaps, the best weather we have had since the great rushes of Pennsylvania and Maryland days. The weather was cool, and we had frost the first night I was there. On the day which I chose to make my examination, I commenced at the top of Belmont Ravine near the Agricultural Building, and walked the whole length of the stream down to the gateway. I then followed up a little runlet to the Anderson Boiler House, walked across the water shed, and commenced at the upper lake and followed the Lansdowne stream down to its exit from the grounds. I did not go up a little runlet entering from the south, because it is dry at the present time. Below the hospital the water was exceedingly dirty. Of suspended matter it carried a large proportion." [Here the speaker addressed himself to the Chair.] "Mr. President, I would like to ask whether, in making analyses of water in which there is a heavy sediment, this is stirred up with the rest?" [By the Chair.] "The sediment is determined separately." The speaker continued as follows: "The water which I obtained was taken from the streams at dusk or a little after, was exceedingly foul in smell, and was very nasty, resembling ordinary dishwater in appearance. As the stream was flowing rapidly and the water was taken from the Lansdowne Ravine after it had had some opportunity to settle in the little pool at the Hunters' Camp, it would have been only a fair test of the water to have included the sediment in the analysis, since the impurities, by reason of the swiftness of both streams, were constantly in suspension, and the whole volume of their impurities went toward the pollution of the river below, and, by decomposition, assisted in the pollution of the atmosphere of the grounds.

The sources of filth upon the line of the Belmont stream, beginning at the upper end, were as follows: First, two small urinals near the railway, one which had evidently been put in late in the summer. Above the road crossing to the Agricultural Building drains came in from the Guard House head-quarters and the Colorado and Kansas Buildings. Opposite the Agricultural Building, the stream had increased to four or five times its volume where it enters the grounds. At this point, near the American restaurant, there was a very dirty stream. Below Agricultural Hall was a covered dam, then we got another drain on the same side, from the American restaurant. Just below was a small double urinal, and a little further down a stream from Lauber's German restaurant. The dairy was located directly upon this little runlet, which flows into Belmont Ravine under Anderson's Boiler House. I think it had the Tea and Coffee Building drainage. Agricultural Building seemed to have a drain running into it also. This takes in all the important sources of contamination on Belmont runlet. On the Lansdowne stream there were no drains or other sources of foulness above the larger lake. Below the lake they were as follows: One near the Sheet Metal Pavilion and one near the Tobacco Building. The hospital is directly over the stream, whether for convenience of sewage, or for health, I could not say. Below it is a pretty little lakelet, whose upper shore almost washes the foundation of the hospital. On walking around the banks I found at the lower side, not far from the little bridge over the stream, what seemed to be a 4-inch pipe; as I stood by it there was a large flow of what was

apparently very dirty dishwater; it was of the foulest character. Its source could not be determined; it might have been from the dairy or some of the eating places near. Large particles of what seemed to be grease, fat, crumbs of bread, soap and the like were discharged.

Near here was a Jennings urinal, and if Mr. Jennings' sanitary exhibits work as well everywhere as they did on the Centennial grounds, I would move that they be abolished entirely. There was not one of them that was clean—they were all very foul. Just below the little bridge at the foot of the lakelet I found a drain running from the Public Comfort flowing three feet in width and four inches deep; it was very nasty, and just below, on the bank of the stream, is another one of Mr. Jennings' sanitary contrivances, a little foul-smelling urinal. It contains three of his six stall urinals in its enclosure; there was no water running through it. There is a little runlet enters below near the gate; its flow is of no consequence.

In the grounds every water-closet that I visited was foul. The Carr closets in all sections were all empty, but they were all clean, having been well cared for. In Agricultural Hall the water-closets were dirty, exceedingly so, not fit to be used. The flush was evidently insufficient. In every case the water-closets were perceptible long before one got into their immediate vicinity.

Question by Col. Prentice: Was there not a special supply running through the grounds?

Answer: The permanent fountain of the American Temperance Association is supplied from the reservoir in the park, and in that quarter of the grounds the supply is from the City Water-Works. In the summer time the water is very much worse, as there is now a large flow of water, the river being full. All the main buildings were nicely connected with the main sewer by sufficient sized sewers. In looking over the sizes I found they could be considered ample. There was a 30-inch sewer across the Main Building; and there is a large one also crossing Machinery Hall. There were sewers running parallel with the building, but it needs a very heavy flush of water to carry off the soil and drainage from a locality which for certain parts of the day is so densely populated.

The report of the Standing Committee on Public Sanitary Administration, Chairman, William P. Prentice, Esq., presented at the regular meeting held Nov. 9, 1876, contained matter of such importance that it was

Resolved: That the two proposed laws reported upon favorably by the Committee of Health of the Assembly at its last session, and brought to the attention of this Association by the report of the Standing Committee on Public Sanitary Administration, the first providing for the more accurate registration of births, marriages and deaths, and the second providing for the abatement of suburban nuisances felt principally in the city, be made a special order for a meeting of the Association to be held on Nov. 23, 1876, and that public discussion be invited thereupon.

A special meeting for the above purpose will therefore be held at the Rooms of the Academy of Medicine, No. 12 West 31st Street, Thursday evening, Nov. 23, 1876, at 8 o'clock.

C. F. Chandler, Ph.D., *President.* A. B. Judson, M.D., *Recording Secretary.*

SCHOOL CHILDREN'S RIGHTS.

The average school-teacher is strong in the direction of rules. Weakness will be unblushingly acknowledged in arithmetic; perfect harmony is not claimed between Subjects and Predicates; large cities change their location with a rapidity and utter disregard of space that quite puts to shame the achievements of Aladdin and his Wonderful Lamp; but strength, harmony and fixedness are always found to perfection in the rules of the school. If school rules were always in harmony with sanitary rules this page might be occupied with other discussions—unfortunately they are not.

Take, for example, the almost universal rule that pupils shall spend their recesses in the school yards and play-grounds. On a beautiful day in June, Brown, trustee of Public School No. 505, enters the school about eleven o'clock in A. M. He finds the room deserted save by the teachers and two or three pupils. One of the latter is writing up the teacher's roll-book, another filling ink-wells, while the third has just returned from the corner grocery with five cents' worth of pickles, which the teacher holds in a paper parcel, and would have, ere this, shared with her fellows, but for the inopportune entrance of Brown.

"Recess?" asks Brown, with an upward inflection of voice. "Yes, sir!" replies Miss Smith, deftly putting the paper parcel in her desk, while the lids of several other desks close over a variety of articles, from a piece of "lovely blue silk" to the New York *Ledger*. "We send them all into the yard at recess. Children cooped up in schoolrooms need a mouthful of fresh air and a bit of sunshine. Getting health and bodily vigor, you know!" As Brown walks down the shady side of the street he says to himself: "She understands children. Don't drill them to death. Gives them a mouthful of air. She ought to be promoted."

Miss Smith says: "I was so afraid I couldn't eat my pickle. I'm just dying for one! Say, girls, how would you have your new dress cut? What a guy Miss Jones is in that old dress. There goes the bell. Dear me! why couldn't recess be an hour long, so I could eat pickles!"

On a windy, rainy day in December, Brown turns the corner on his way to P. S. No. 505. As he does so a gust of wind turns his umbrella, and his hat rolls in the gutter while trying to repair damages. Brown comes as near swearing as the average committee-man ever allows himself to come, and gives a sigh of relief as the outer door of P. S. No. 505 shuts with a bang, and he is secure from the fury of the storm. He passes to the school-rooms, and finds them deserted as before. "Recess!" says Brown, this time with a downward inflection of voice. "Yes, sir," replies Miss Smith; "children cooped up, etc." "Not much sun to-day," says Brown, smiling grimly. "Well, no, but plenty of air; moist air, too. A little rain is good for goslings," and Miss Smith smiles at her witticism, but awakes no responsive one.

"I think I'll go into the gymnasium and see the children," says Brown.

Miss Smith essays to stop him by introducing other school topics, in vain. Down narrow, crooked, ill-lighted back stairs Brown gropes his way, in imminent risk of making Mrs. B. a widow. He reaches the gymnasium, or play-ground. In the language of ordinary mortals the gymnasium of P. S. No. 505 would be called the cellar. But ordinary mortals did not affix the names to the different apartments of P. S. No. 505. Brown finds the flagged floor sticky and damp. Through the open door the biting wind viciously rushes. Most of the children stand along the side of the room shivering, wishing for the bell to ring, and, in the dim light, looking like the spirits in the Frozen Circle of Dante's Inferno. A few irrepressibles running around and yelling at the top of their voices help to fill out the picture. "Getting a breath of fresh air?" asks Brown of a group in a corner where the noise will allow him to speak. "Getting a cold, you bet," says Patsy Murphy, standing first on one foot and then on the other, who, being a new boy, fails to recognize the august personage who addressed them. "Teacher says 'tis healthy. Wish she had to come down here every day! Bet your boots, guv'ner, she'd rather be sick."

Brown returns to the school-room. "Miss Smith, don't you think the boys, on such days as this, better have their recess in the rooms, and only those pass out to whom it is imperative that they should?"

"Why, Mr. Brown, who ever heard of such an idea! Think of the noise! They would litter the floor with apple skins, the teachers would have to look after them every minute. Besides, it wouldn't do to break over the rule!"

Brown turned down the street. As he buttoned his coat, he said, "I wish Miss Smith had a little common sense," but never a word about promotion this time.

Miss Smith said to herself: "What could make Mr. Brown so cross. Have a recess in the rooms indeed, because it happens to rain! Next he would want such a recess when it is cloudy, when it is cold, when it is hot, and what time could the teachers get to eat an apple and to have a little chat? No! I'll let him know that I keep the rules."

Fellow-teachers, Brown was and is right. What Miss Smith needs, what we all need, is more common sense. In pleasant, mild weather to the average boy or girl a run in a school yard or well lighted play-room is beneficial. It were better for the moral and physical well being of primary children if the teachers joined them. If, like our German friends, they directed their sports, suggested games, chose the sides, led the singing, tried to get back to their own childhood, it would be infinitely better for both parties. But we prefer to keep the rules. Children are turned out and left to their own devices, the teachers, meanwhile, indulging in pickles and gossip. The rule is made inflexible. Children recovering from sickness, children illy clad and suffering from colds, must go into the yard because it is the rule. Girls fourteen to sixteen, at critical periods of their life, must go and "stand on the line" for ten or fifteen minutes, with only thin shoes to protect them from the heat-extracting flagging. If notes are brought to be excused, to be sure, pupils are excused; but often so ungraciously that a girl will, as one said, "die before she brought another note." All of this that a *rule* may be kept.

The exclusion of pupils from the school-room in the morning, regardless of the weather, until the clock indicates the appointed minute, re-enacts again the story of Procrustes. Teachers sit in well-warmed rooms discussing last night's party, while little girls shiver in the bleak play-ground. "Serves them right for coming so early!" Not so! The children dread the biting wind less than the cutting words, and often the rod, which fall upon them if late. In their anxiety to avoid these, and knowing nothing of the inclemency of the weather, after a long, cold walk they arrive half frozen at the school-room, to find the door closed in conformity to a rule made in July. Give the children fair play. Let the rules be made for their good and not for our personal convenience.

An old farmer's son returned from college. He talked finely about the dignity of labor and the chemical constituents of the soils. Spring wore into summer and summer into autumn, and no useful result came from his dissertations. One night at family prayers the old farmer exclaimed: O Lord! Thou hast given John a power of book larnin', but, we pray Thee, give him a little "*gumption*, too." The schools have a "power" of rules. Let us offer the old farmer's prayer for a "*little gumption*." PHILO.

Brooklyn, Nov. 2, 1876.

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The Atlantic Monthly's prospectus for the coming year presents a very strong list of attractions. The magazine is now entering on its twentieth year, and while some of the writers who gave lustre to its earlier pages have passed away or ceased to write, it still counts among its contributors four of the greatest names in American literature, which have been identified with it from the first volume. Longfellow, Whittier, Holmes, and Lowell will all contribute during the next year, Mr. Longfellow promising an unusual number of poems. E. C. Stedman, T. B. Aldrich, and other well-known ATLANTIC poets will also continue to write. The publishers announce two new and unique features for the coming year, that are likely to prove exceedingly popular. One of these will be contributions to each number, of original music by such able composers as John K. Paine, George L. Osgood, Julius Eichberg, Dudley Buck, and Francis Boott, with words by some of the most distinguished ATLANTIC poets. The other is a new department to be called "The Contributors' Club," which will be devoted to desultory criticism of art, letters, politics and society. Some of the best known contributors of the magazine will appear constantly, though anonymously, in its columns, and the publishers say it will be unlike any feature in other magazines.

"Claims on the Provision of Water for Cities" is the subject of a deeply interesting lecture recently delivered by Dr. F. Sander, of Barmen. After a long deduction on septics he arrives at the following conclusions:

I. All matter liable to become foul and septic (garbage excrements) must be removed as soon as possible from the vicinity of human dwellings.

II. The water used for this purpose should not be soiled before, especially not by excrementitious matter that contains the excremental poison. Further he demonstrates that for this necessary water supply generally the best will be spring water, secondly underground water, and lastly water of rivers. But we always must remember that even sometimes spring water and underground water oftener may be soiled, and that water of rivers can be cleaner than either, according to different circumstances.

Heredity.—Dr. St. Martin, of the Academy of Medicine at Madrid, recently stated that according to his statistics, out of 551 deaf and dumb children 149 were generated by blood-relatives. During a period of twenty-one years 253 deaf and dumb children were received at Barcelona, of whom only 15 were of blood-related parents.

Unsuccessful Efforts for Sanitary Legislation.—We are sorry to hear from Dresden (Saxony) that although the bill "to have an establishment connected with the pathological-chemical laboratory of the University of Leipzig, for the examination of drinking water and other sanitary matters," was not passed.

The bill regarding the drainage system of Bale, accepted by the government, was rejected by public vote, the public being influenced by false statements.

Poisoned by a Hat.—In Stettin (Prussia) a gentleman, after wearing a new hat for two days, got headache, and on his forehead an eruption broke out, which became pustulous, combined with a purulent inflammation of both eyes. An expert (chemist) demonstrated that the brown leather (sweat-leather inside the hat) was colored with a poisonous aniline color.—*Deutsche Medic. Wochenschrift*, Hesse.

The Medico-Legal Society of Paris.—On the 7th of May, 1876, M. Béhier finished his earthly career, at the advanced age of 63 years. He was mourned by the students and the profession in Paris, and each of the learned societies of which he was a member appointed sympathizing friends to record his worth. M. Béhier was no ordinary man. His name will ever be associated with the method of subcutaneous injections; the continued application of cold in abdominal affections, and especially in peritonitis; the employment of alcohol in acute phlegmasia; and with the introduction of thoracentesis. M. Béhier was one of the most active and influential among the founders of the Medico-Legal Society of Paris, of which he was also the President. M. Chandé, his friend and associate, pronounced the oration before this Society. His loss will be regretted by the mem-

bers of the New York Medico-Legal Society, who will remember him for his zeal in the common cause in which they are working. *Sit tibi terra levis.*

Academy of Medicine of Paris.—May 9th. "After the reading of the minutes, the Society adjourned, in testimony of their regret for the loss of two of their associates, Professor Béhier and M. Buiguet.

"Before adjourning M. Jules Raux was elected an associate member, having received 39 out of 61 votes."

M. Lee Professeur Vulpian.—The election of Professor Vulpian to the Academy of Sciences has been the cause of great satisfaction to the Faculty of Paris. On his subsequently entering the amphitheatre, he was received with prolonged cheers. Evidently moved by this spontaneous outburst of sympathy, he expressed his feelings nearly as follows:

"I thank you for this evidence of sympathy you have given me, in consequence of my election to the Academy of Sciences.

"This election is for me much more than a personal gratification. It is a triumph for the Faculty of Medicine, for medicine in general—in a word, it is a homage rendered to our noble profession. An opposition sprung up in the Academy of Sciences between medicine and the other sciences. A party was formed in opposition to medicine; they set on foot an organization to drive it from the Academy of Sciences.

"The gentlemen who undertook this object justified their attack on the false supposition that medicine is not a science. We must not be surprised at this course. Those gentlemen know nothing of medicine except the name, and they are consequently ignorant of the fact that in many respects it deserves the name of science as much as botany, zoology, physiology, physics and chemistry. The cause they so warmly advocated has been defeated, gentlemen, thanks to the activity displayed in defense of the cause of medicine by some of my colleagues in the faculty, among whom I am gratified to notice M. Gosselin and M. Wurtz."—*Le Progrès Médical, le* 27 *Meais.*

The Histological Society of Madrid.—We learn from *La Gaceta de Sanidad Militar* that the Histological Society of Madrid have succeeded, after much patience and industry, in overcoming all the obstacles that stood in their way in founding a practical School of Histology. The *Gaceta* congratulates the Executive Committee of the Histological Society on its success in establishing a practical School, in which the modern doctrines on the subject can be tested, and the knowledge of established principles so important in the study of medicine can be cultivated and diffused. The inauguration of the School, and the formal opening of the classes, took place on the 16th of January last. We, too, congratulate our confrères of the Histological Society on the zeal and devotion to science they have thus displayed, and we feel assured that the results of the teaching there inaugurated will prove as useful in promoting the study of sanitary science, as in advancing practical medicine or surgery.—*Macte Nova Virtute.*

Royal Academy of Medicine of Madrid.—List of prizes offered for the year 1877. The Academy offers for competition the following:

I. The measures to be taken by governments to ensure the proper study of epidemics of variola, and the prophylactic measures to be adopted; and the proper organization of the service of vaccination and revaccination.

II. The histological characters and the clinical differences between lupus, epithelioma and ulcerating cancer. The comparative study of their treatment.

The Academy offers the very liberal prize of 3,000 rs. vn. ($375), a gold medal, a special diploma and the title of corresponding member for the best thesis; and a silver medal, a special diploma and the title of corresponding member for the *accesit.*

The essay must be written in Spanish or Latin, and the one receiving the first prize will be printed at the expense of the corporation, and the author will receive two hundred copies.

We have no doubt the investigations here invited will be of universal interest.

Other prizes equally liberal are offered. That of Dr. Asuero, of 5,000 rs. ($625), and the other conditions the same as above, except that there is no medal, and the essay may be written in Spanish, Latin or French. The subject is:

How are we to understand the healing power (*fuerza medicatriz*), and what importance has the knowledge of it in therapeutics?

This subject embraces a very wide field of investigation; as we understand it, it is the *vix medicatrix*, without restriction or limitation, and embraces the whole list of causes or agencies, both physical and moral.

The last, a prize of 1,000 rs. ($125), the other conditions as for the one preceding, is offered by D. Andres del Busto. Subject: Biographical, bibliographical and critical Memoir of D. Antonio Hernandez Morejon.

The essays are to be presented before the 1st of September, 1877, and the awards will be announced at the public session of 1878.

This exhibit, in point of liberality, and the importance of the subject to be treated (not excepting the memoir), is most honorable to the enterprise and public spirit of the Royal Academy of Medicine of Madrid.

Spanish Hospitals.—By Royal decree of the 8th of March, the proposition to erect hospitals of wood on the American plan for the use of soldiers sick with small-pox has been approved, and the sum of 88,400 pesetas (about $49,000) has been appropriated for that purpose.—*Gaceta de Sanidad Militar.*

NEW YORK MEDICO-LEGAL SOCIETY.

Proceedings, Nov. 1st, 1876, Prof. F. H. Hamilton, M.D., L.L.D., President, in the Chair.

Inaugural Address: Resume of the Progress of the Society.

Gentlemen:

In bringing to a close the labors of the year, it seems proper that we should consider briefly what has been done by our Society during the period now terminated, in order that we may know whether it has performed the duties for which it was organized, and which we assumed when we became members.

The following is a summary of the papers and scientific reports brought before the Society during the year:

"Effects of a Sudden Loss of Consciousness upon the Memory of Preceding Events," Nov. 30th, 1875; by the presiding officer. Published in The Sanitarian for February, 1876.

"Epilepsy with Mania: an analysis of the case of Joseph Waltz," etc.; by A. O. Kellog, M.D., of Poughkeepsie, N. Y., Dec. 23d, 1875. Full abstract published in the *Psychological Journal* for February, 1876.

"Milk in its Medico-Legal Aspects," Jan. 26th, 1876; by Prof. R. Ogden Doremus, M.D. Published in The Sanitarian for March, 1876, in the *Medical and Surgical Reporter*, Philadelphia, March 4th, 1876, and in other papers and journals. This paper attracted much attention both in the Society and out, and resulted in the appointment of a committee, of which Prof. R. Ogden Doremus was made Chairman, to determine what laws and other measures were necessary to prevent the sale of adulterated milk in this city.

"State Medical Polity; or, How Far Government may Interfere in the Protection of the Health of the People," Feb. 16th, 1876; by the Hon. Geo. H. Yeaman, First Vice-President of the Society, and attorney at law. I regret to say that the author of this valuable paper has not yet found time to complete his partially finished manuscript, and that consequently no copy has been furnished for publication.

"Mysterious Disappearances and Presumptions of Death in Insurance Cases," March 1st, 1876; by William G. Davies, A.M., B.S. Published in The Sanitarian for April, 1876. A lengthy discussion ensued upon the reading of this interesting paper, in which several gentlemen not members participated.

Before the close of the meeting a committee was appointed "to confer with the School Commissioners on the sanitary condition of the schools of this city," of which the Hon. Geo. H. Yeaman was made Chairman.

At the regular meeting, April 5th, 1876, no paper was read, the entire session being devoted to the consideration of two important reports. First, the committee appointed at the preceding meeting to confer with the school authorities in regard to the sanitary condition of the schools of the city reported through its Chairman. After discussion the report was accepted and the committee continued. Second, the Committee on the Adulteration of Milk reported through

its Chairman. The report was accepted and its recommendations, with slight modification, were adopted. Both of these exceedingly valuable reports were published in THE SANITARIAN for May, 1876.

May 3d, 1876, Prof. Wm. A. Hammond, M.D., read a clear and concise paper on "Certain Railway Injuries of the Spine, in their Medico-Legal Relations," which was published in THE SANITARIAN for July, 1876.

At this same meeting, also, the School Committee reported progress through Dr. O'Sullivan, one of its most active and efficient members. The Society was informed by Dr. O'Sullivan that the proposed by-law of the Board of Education, referred to in the last report of this Committee—namely, fixing the sitting capacity and air space—had been adopted by the Commissioners.

At the regular meeting, June 7th, no paper was read, the whole time until a late hour being occupied in the consideration of important reports.

Sept. 6th Dr. J. J. O'Dea, of Clifton, Staten Island, read a paper entitled "Medico-Legal Science: a sketch of its Progress, especially in the United States." This classical and entertaining historical paper is published in THE SANITARIAN for the months of October and November respectively.

The last meeting, Oct. 4th, was devoted to the election of officers, and to the reception of the very able report on the Sanitary Condition of the Schools, made by Dr. O'Sullivan. This report was published in the *N. Y. Herald* Oct. 5th, 1876, and in THE SANITARIAN for Nov., 1876. It will also be published, in connection with the preceding reports upon this subject, in a pamphlet form, and will probably be ready for distribution before the next meeting of the Society.

At the same meeting the report of the Executive Committee on the revision of the By-Laws was, after some slight modifications, adopted. The new rules to take effect Nov. 1st, 1876.

Jan. 26th, 1876, the Society held its first meeting in the Hall of the Academy of Medicine; and soon after the Library was removed to a room in the same building and placed in charge of the janitor, who has the care of the entire building, until the new Librarian could be elected. Immediately on the election of Dr. Emil Gruening as Librarian, he proceeded to make a complete inventory of the books and pamphlets, and to have constructed additional cases, as the old cases were found to be insufficient. The services of Miss J. J. Putney, Librarian of the Reading Room Association, whose Library is on the same floor, have been secured to take personal charge of our Library also.

The Executive Committee has decided that for the present no books can be taken from the Library; but that it may be at any time consulted by the members, and by "donors of books," as authorized by a resolution of the Executive Committee—this privilege extended to "donors" not to apply to those presenting books in future, unless by special resolution.

Although the attention of the members has, from time to time, been called to the resolution adopted Jan. 6th, 1873, that each member be requested to contribute annually one volume to the Library, very few have, during the present year, been contributed. This may be explained by the fact that it has been generally understood that the

Library was closed temporarily, while waiting a transfer and inventory. Perhaps, also, the members have already in some measure depleted their own libraries of that class of books which would be considered desirable to us, and for that reason we may not expect hereafter so liberal contributions from this source.

A larger amount is found in the treasury at the close of the year than usual; and the Executive Committee has been able to appropriate and set aside as a Library Fund, inclusive of what was already in this fund, $150, to be used in the purchase of books and journals during the year. It is believed that at least this sum of money, probably more, may be saved every year, and appropriated to the same purpose. This method of completing a library would have this great advantage over voluntary and indiscriminate contributions—namely, that the shelves would be less likely to be encumbered with duplicates, and with books and pamphlets having little or no reference to State Medicine or Medico-Legal Science. In the selection of proper books hereafter, the Librarian would be greatly aided if the members would, from time to time, inform him what works they wish to consult, and which are not at present found in the Library.

By the new Constitution the power of the Society to establish or appoint a "Permanent Commission" has been declared. It is probable that the Society will regard this declaration as a virtual recognition and continuance of the commission recently appointed by resolution. It may be well, however, that such action be taken as will put this matter beyond dispute.

The object of this commission is, to consider any questions which may be referred to us by the courts, or which may come to us from other sources, in the interim of the regular meetings of the Society.

Dating from March of this year, THE SANITARIAN, edited and published by A. N. Bell, M.D., became the organ of this Society, under the title of "THE SANITARIAN, AND ORGAN OF THE MEDICO-LEGAL SOCIETY;" in which ably conducted and popular journal the papers and proceedings of the Society are published monthly, thus securing for them a wide circulation. This is the first and only journal in the United States which has devoted its pages to both Sanitary and Medico-Legal Science, or to State Medicine, properly so called.

The title to the papers and proceedings remains, however, with the Society; being retained with a view to their future publication in a book form.

In reference to the published statement, made—in good faith, no doubt, and upon information received—at the close of the last year, that the second volume or "series" was "now in press" and "would shortly be issued," a word of explanation seems to be necessary.

Soon after I assumed the duties of presiding officer I called upon the publishers, and learned from them that they had positively refused to continue the publication without a guarantee of the sale of at least three hundred copies, inasmuch as the publication of the first series had proved unremunerative. This guarantee has not yet been obtained for them.

There is now accumulated sufficient material to make two additional volumes of the same size as the first; and I cannot but regard the publication of these papers, discussions and reports, most of

which are exceedingly valuable, in a permanent series, as of the greatest importance. The effort to secure their publication will be renewed, and it is sincerely hoped that every member will aid in its accomplishment by subscribing for at least one volume. If this be done their publication will be assured.

No member has withdrawn from the Society during the year, except in case of removal; but it will be necessary, in revising the list of members, to omit a number who appear upon the present catalogue, but who have never paid any dues or signified their acceptance of membership. No further action is required than to drop their names from the list of members, and this the Finance Committee has power to do after proper notification.

Meanwhile our actual number has steadily increased by the accession of new members, both lawyers and physicians, of the highest reputation in their respective professions.

In this brief retrospect of the labors of the year, there is much which, in the opinion of the speaker, ought to be regarded as matter for congratulation and encouragement. In all that constitutes health, and that indicates prosperity and growth, in a strictly scientific body —a body organized for the study and cultivation of a great social science—there has been a steady improvement. The number in attendance at the regular meetings, the scope and frequency of carefully studied contributions, and the earnest character of the discussions, indicate plainly an increasing knowledge of, and taste for, Medico-Legal Science among our own members.

It is apparent, also, from the promptness with which matters which are discussed here are seized upon and discussed by that class of citizens who have the most cultivated and delicate appreciation of what is current public taste—namely, reporters and editors—that the public as well as ourselves has become interested in the objects and purposes for which our Society was organized, and is prepared to give us its countenance and support. The law and medical journals have paid us the compliment, also, of reproducing entire several of our most valuable papers and reports.

It seems to me, also, that we may find an additional subject of congratulation in the fact that all of our discussions have been conducted in a spirit of courtesy. Differences of opinion must, in the nature of the human mind, and in obedience to differences in education, always exist. The most substantial facts and arguments will change their forms, and be presented in light or in shadow, according to the points of view from which they are seen. These observations apply forcibly to our own Society, composed of the members of different professions, in whose course of study, habits of reasoning and pursuits there is much in common, but probably much more that is peculiar and special. It is fortunate, therefore, that our disagreements have never interrupted our harmony.

Finally, gentlemen, it is my duty and my pleasure to thank you for the kindness and forbearance which you have shown toward me during the past year, and for the generosity with which you have accepted of my rulings, although I cannot flatter myself that they were always correct. But that act of yours which has touched me most profoundly and tenderly is the vote by which you have called me to pre-

side over your deliberations for another year. I am not insensible to the high compliment you have paid me, nor of the importance of the trust you have again reposed in me; and I beg of you to believe that I shall most earnestly endeavor to merit your approval in the performance of all my official duties.

Perhaps, unhappily, I shall not succeed; and if I do not, permit me to hope that, for the common good, you will at least exercise toward me that humblest of all Christian charities, and forget what you cannot conscientiously forgive.

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A Sanitarium among the Himalayas.—Darjeeling was fixed upon as the site of a sanitarium in 1835, and the Rajah of Sikkim, who had come under the amiable "protection" of the British, was politely requested to cede a small tract for this purpose. After no little pressure, he consented, "out of friendship to the British government," in consideration of an annual payment of £300. Some fifteen years later the Rajah offended his "protectors," who revoked the payment, and "annexed" a considerable additional tract of territory. Meanwhile barracks and a hospital were established, European residents of the plains erected pleasant cottages, and native villages grew up at a little distance around them. When Dr. Hooker was there, a quarter of a century ago, the entire population was about 5,000; it now numbers about 20,000.

The cantonment of Darjeeling occupies the summit of a ridge, from each side of which deep valleys flow steeply, but not precipitously. A walk or pony ride of a couple of hours will bring one from a climate like that of London to spots where the orange and the sugarcane flourish. Looking northward, the horizon for a third of its circuit is bounded by the most magnificent mountain scenery of the globe. Right in front is Kinchinjunga, 28,177 feet, the second loftiest peak, whose summit reaches a mile nearer the stars than any other upon earth, saving a few of his own gigantic brethren. The still loftier Gaurisankar or Deodunga, which the English have named Mount Everest, seventy miles to the west, and more than 29,000 feet high, is not seen from the cantonment, being hidden by an intervening lower and nearer range, but is visible from many points in the neighborhood. Just to the west of Kinchinjunga are Junnoo, 25,311 feet, and Kudra, 24,015 feet, the view to the east being bounded by the square gigantic mass of Donkia, 23,176 feet. At least twelve peaks, each more than 20,000 feet, are visible at a glance, the most beautiful of which is Pundeem, 22,207 feet, almost on a level with Aconcagua and Sahama, the loftiest in the Andes. Pile the Jungfrau upon Mont Blanc, and the summit would not reach that of Gaurisankar. Upon Mount Washington heap the three loftiest summits of the United States east of the Rocky Mountains, and the pile would not reach to within half a mile of the white crown of Kinchinjunga.

During a great portion of the year a clear morning is almost the exception at Darjeeling; but when one does occur, the view at sunrise has no parallel on earth. The peaks are so lofty and sharp that they catch the rays of the rising sun while all below is shrouded in darkness. The first beams strike the white summit of Kinchinjunga, which puts on a rosy glow against the dark blue sky; Junnoo is next aflame, then Kubra and Pundeem, and one by one all the others in rapid succession.—Alfred H. Guernsey, in *Harper's Magazine for November.*

Editor's Table.

The Public Health.

Mortality per 1,000 *inhabitants, annually, from all causes and certain special causes.*

POPULATION AND REGISTRATION AT MOST RECENT ESTIMATES AND DATES.	Deaths under 5 years	Total No. of Deaths from all Causes.	Per 1,000.	By Violence.	Small Pox.	Diphtheria.	Scarlatina.	Measles.	Croup.	Whooping Cough.	Typhoid Fever	Typhus Fever.	Puerperal Diseases.	Diarrhœal Diseases.	Consumption	Lung Diseases other than Consumption.
ew York, 1,066,350—4 wks. end'g Oct. 21.	932	1397	17.03	103	3	105	22	7	50	20	29		19	135	334	194
1 hiladelphia, 825,500—4 wks. end'g Oct. 28.	379	1252	19.71	46	22	62	14		34	7	73	3	5	16	202	105
Brooklyn, 506,000—4 wks. end'g Oct. 28...	267	675	17.33	20	1	43	22		28	15	14	3	3	37	116	66
St. Louis, 498,000—4 wks. end'g Nov. 4....	162	451	11.77	18		20	3		9	6	11		1	18	57	80
Chicago, 420,000—6 wks. end'g Oct. 28.....	501	994	36.42	20		99	139	1	70	5	43		7	39	83	87
Baltimore, 350,000—4 wks. end'g Oct. 28...	175	463	17.19	16		15	26		27	2	16	1	1	11	83	31
Boston, 352,000—4 wks. end'g Oct. 28.....	211	558	20.6	18		40	22		12	6	23		3	40	104	48
Cincinnati, 265,000—4 weeks end'g Oct. 28.	129	333	16.33	19	3	17	1		13	2	13		4	15	50	32
San Francisco, 272,345—month of Sept....	201	548	24.14	27	77	54	12		5	8	15		2	22	52	39
New Orleans, 210,000.....																
Washington, 160,000.....																
Pittsburgh, 142,000—4 wks. end'g Oct. 28..	89	203	18.58	23	4	9	4	2	15	3	6			12	25	31
Newark, 126,000—2 months end'g Oct. 31..	237	537	25.55	10		51	7		5	3	31	2		27	65	28
Providence, 101,500—month of Oct.....	70	176	20.88	4		32	7		15		3		1	5	28	16
Milwaukee, 100,781—month of Oct.....	108	178	21.19	7	33	12	18			5	5		3	6	12	5
Rochester, 70,000—month of Oct.....	47	142	24.34	2		18			6		5		1	4	17	10
Richmond, 72,500—4 wks. end'g Oct. 28...	57	122	21.87	2		8			5	2	4			7	17	6
New Haven, 60,000—month of Oct.....	23	65	1.3	3		7	1		2		1		3	1	13	4
Charleston, 57,000—2 wks. end'g Oct. 14...	35	86	39.22			11			1		2			1	10	9
Toledo, 50,000—month of Oct	28	56	13.44	2					4		1			2	4	14
Mobile, 40,000.....																
Dayton, 36,000—month of Oct.....	12	34	11.33			5			2					1	3	3
Nashville, 27,000—month of Oct.....	42	86	38.22	3		28	1		2					8	11	7
Wheeling, 28,000																
Buffalo, 170,000—month of Oct.....	50	142	10.02	10		4			4		10			5	26	9
Knoxville, 13,000—month of Oct.....	6	11	10.15											1	2	1
Paterson, 39,000—month of Oct.....	47	99	30.46	4		27	1		6		2			4	12	7
Petersburg, 20,000—4 wks. end'g Oct. 28...	20	46	29.9	1		1			3	1	2			4	9	5
Lansing, 8,400.....																
Selma, 8,000—month of Oct.....		12	18.00	1										1	2	1
Elmira, 20,000—month of Oct.....	3	21	12.6	1							3				4	3
Hudson Co., N. J., 170,859.....																
Yonkers, 17,500—month of Oct.....	9	25	17.25	1										1	8	4
Memphis, 45,000—month of Oct.....	50	124	33.06	3		2	2						2	16	13	13

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Correspondents under this head are earnestly requested to send their reports promptly, and latest estimated population.

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Boston.—Annual Report of the City Registrar, 1875. Population, 341,919. Births: 5,641 males, 5,379 females—11,020; a decrease of 697 on the year before; the ratio to population 1 in 31.02. Still-births, 541—101 less than in 1874. Marriages, 3,416—a decrease on the year before of 633—1 to each 50.05 of the population.—Deaths: 8,958—26.20 per 1,000; 4,887 under 20 years of age. In the sum total an increase of 1,146 over the last previous year. The mortality from ten zymotic diseases—cholera infantum, cholera morbus, croup, diarrhœa, diphtheria, dysentery, scarlatina, typhoid fever, measles and meningitis—was 2,548, or 28.46 per cent. of the whole. There were, besides, of other zymotic diseases, 3,000 deaths,

making in all 2,848, or 31.79 per cent. of all the deaths—an excess of 7.49 per cent. on the year before. Of consumption, 1,357—15.15 per cent. of the whole. In 1874 the mortality from consumption was 17.06 per cent. of all.

San Francisco.—Annual Report of the Health Officer for the fiscal year ending June 30, 1876.—A mere statistical summary, the present health officer having been in office but a few weeks previous to the time of making up the report. Population 272,345—an increase of 42,213 over that of last year. Total mortality, 4,791; under 20 years of age, 2,027. From zymotic diseases, 930—19.1 per cent. Consumption, 657—13.7 per cent. Ratio of deaths per 1,000 of population, 17.59. A summary of sanitary work and the expenses thereof is also given, showing excellent and economical administration.

Paterson, N. J.—Annual Reports of the city officers for the year ending March 31, 1876. The Registrar's Report is comprehended in an elaborate table of mortality statistics, and tabular statistics of births and marriages. Population, 39,000; births, 1,167; marriages, 346; deaths, 1,110, an excess of 174 over 1874. Of the deaths, 441 died of zymotic diseases and 126 of consumption. Ratio of deaths per 1,000 of population, 28.46—a mortality for such a population well calculated to arrest the attention of observers, as well as the city authorities. In view of it, the Mayor in his message urges upon the board of Aldermen, which it seems is endowed with plenary powers in this regard, the necessity of increased attention.

Foreign Health Statistics.—United Kingdom of Great Britain, during four weeks ending Oct. 21st, 22,851 births and 12,100 deaths were registered in London and twenty other large towns, and the natural increase of the population was 10,751. The mortality from all causes was, per 1,000: in London, 18.25; Edinburgh, 15.50; Glasgow, 20.75; Dublin, 20.25; Portsmouth, 19.25; Norwich, 22.25; Wolverhampton, 21.25; Sunderland, 17.50; Sheffield, 21.75; Birmingham, 19.75; Bristol, 19.75; Liverpool, 22.25; Salford, 27.50; Oldham, 26.75; Bradford, 18; Leeds, 20.75; Hull, 18.50; Newcastle-upon-Tyne, 16.25; Leicester, 22; Manchester, 24; Nottingham, 17.50.—Other foreign cities at most recent dates, per 1000: Paris, 22; Rome, 23; Vienna, 23; Brussels, 19; Berlin, 22; Hamburg, 23; Calcutta, 27; Bombay, 24; Madras, 42; Amsterdam, 19; Rotterdam, 23; The Hague, 26; Christiana, 20; Breslau, 22; Buda-Pesth, 27; Turin, 23; Alexandria, 59; Copenhagen, 21; Munich, 30; Naples, 22.

What shall we eat?—*The Galaxy*, always fresh, varied and entertaining, in its November issue contains one of Mr. Rhoes' best, on a subject of the utmost importance to everybody. Unpalatable though his home truths may be to some people, they are nevertheless very nutritious, and not like some food, in danger of being partaken of to one's injury: the more the better. He analyzes and compares the foods and cookery of various nations, and shows how far Americans are behind others in appreciating the promptings of nature and the arts of the cuisine; that *raw* material, in more senses than one, is wonderfully abundant in the United States; and that far advanced as we claim to be in comparison with other peoples, "there is warrant for believing if an international congress of gastronomy were to be organized, that the United States would not hold the rank of some other nations which we are wont to regard as considerably behind this one in general civilization."

Public Health Meeting in Westchester County.—An opening in the right direction. At the Annual Meeting of the Medical Society of the County of Westchester, the Committee on Hygiene were authorized, at the spring and fall meetings of the Society, to hold a public evening meeting under its auspices, to

have papers read and discussions upon sanitary matters.

At the fall meeting, held at Tarrytown October 17th, such a meeting was held. The chair was occupied by the Hon. Wm. A. Gibson, Mayor of the city of Yonkers, who, upon taking the chair, made some very appropriate remarks upon the unremunerated labors of the medical profession in trying to prevent disease and teaching people how to preserve their health; and how important it was that they should be more ready and willing to assist in this very important work.

Prof. Stephen Smith, of New York, then read the paper of the eveniug, on: "How every family is a source of ill health to itself and the community." Then discussions were opened by Hon. T. A. Atkins, of Yonkers. He noticed, first, the importance of intelligent sanitary inspection of dwellings. Second, he took the ground that the public, being ignorant of sauitary requirements, laws should be enacted to restrain and prevent the sources of disease in every practicable way. *Reform* being the watchword of the day, it was well to commence iu our very households.

Cities he now regarded as being fairly protected, but country districts are not, while they should be at once. He gave forcible illustrations of the importance of proper observance of sanitary regulations from personal observation.

He read the first sanitary law passed in New York city, from an old law book, and said this might serve as a hint to people in country districts that it was time to take action. Cupidity and stupidity he considered the great enemies to sanitary reform.

The Rev. Dr. Todd, of Tarrytown, also made some very appropriate and stirring remarks upon the daugers to which people were constantly exposing their health, by their disregard of the plainest sanitary requirements.

The meeting was altogether very entertainiug and instructive, well calculated to awaken an interest in the necessity of laws for the protection of the public health.

Bibliography.

The Practitioner's Perfect Account Book. Day Book, Ledger and Cash Book combined, for the use of Physicians., By A. J. C. Skene, M.D.

This book, the author informs us, is the result of many years' systematic modification and improvement on the best and easiest way of keepiug physicians' records; and it appears to be an eminently successful result, far surpassing anything of the kind hitherto brought to our notice. It fulfills every requisite of an accurate accouut book iu immediate conjuuction with services rendered, arranged in the simplest, and, at the same time, most perspicuous manner. Prices from $3 to $6. By mail or express. Specimen sheets free on application. Samuel H. Moore, Sole Agent, 52 John St., New York.

Notes on Assaying and Assay Schemes. By Pierre de P. Ricketts, E.M., Ph.D., Instructor, in charge of the Assay Laboratory of the School of Mines, Columbia College.

This little manual embodies the system of Assaying practiced in the School of Mines, with valuable additions, tables, etc., and has been prepared with special reference to the wants of the studeut and assayer. Chemical names and formulæ, where necessary, have been given in pareuthesis and in the Appendix, in order to siuplify the book.

The work is fully illustrated, and much attention has been paid to the details and methods peculiar to the West, many of the latter having been tested in the laboratory and the results given. Price, bound in cloth, $2.50; in paper, $2.00. On receipt of which the book will be sent, postage paid. Special rates to agents.

Address, Editors of the "American Chemist," or the Author, School of Mines, Columbia College, 50th St. and 4th Ave., New York.

Chemistry.—General, Medical and Pharmaceutical, including the Chemistry of the "U. S. Pharmacopœia." A Manual on the general principles of the Science and their applications in medicine and pharmacy. By John Attfield, Ph.D., F.C.S., etc. Seventh Edition, 12mo, pp. 668. Philadelphia: Henry C. Lea.

No better proof could be given of the value and utility of this work than the fact that within the brief period of *five* years it has passed through two large editions, this being the third American edition since 1871; four editions having appeared in England between the years 1867 and 1875. This seventh edition is considerably enlarged, and handsomely embellished with numerous illustrations. For the practical instruction of students in pharmacy, and as a text-book in chemistry for medical students, it is the best Manual of Chemistry in the English language.

Dispensaries. Their Origin, Progress and Efficiency. By Rev. Wm. S. Ludlum, A.M., Columbia College, Presbyter of the Protestant Episcopal Church in the Diocese of New York, and Doctor of Medicine, etc. *Sold for the benefit of St. John's Guild.* New York: G. P. Putnam's Sons.

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